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VOL. XVIII. NO. 23

DEC. 1, 1890.

St. W. Conrad

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PEACE ON EARTH
GOOD WILL TOWARD MEN

BLENDING IN BEE CULTURE

DEVOTED
TO
THE GARDEN

& HOME INTERESTS.

MEDINA, OHIO

BY
A. I. ROOT

TERMS, ONE DOLLAR PER YEAR.

ENTERED AT THE POSTOFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.

ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them. Patent-medicine advertisements, and others of a like nature, can not be inserted at any price.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions or more, 20 per cent; 24 insertions or more, 25 per cent.

On 48 lines ($\frac{1}{2}$ column) and upward, 1 insertion, 5 per cent; 3 insertions, 10 per cent; 6 insertions, 15 per cent; 9 insertions, 20 per cent; 12 insertions, or more, 25 per cent; 24 insertions or more, 33 $\frac{1}{3}$ per cent.

On 96 lines (whole column) and upward, 1 insertion, 10 per cent; 3 insertions, 15 per cent; 6 insertions, 20 per cent; 9 insertions, 25 per cent; 12 insertions, or more, 33 $\frac{1}{3}$ per cent; 24 insertions or more, 40 per cent.

On 192 lines (whole page), 1 insertion, 15 per cent; 3 insertions, 20 per cent; 6 insertions, 25 per cent; 9 insertions, 30 per cent; 12 insertions or more, 40 per cent; 24 insertions or more, 50 per cent.

No additional discount for electrotype advertisements.

A. I. Root.

CLUBBING LIST.

We will send GLEANINGS—

With the American Bee-Journal, W'y	(\$1.00)	\$1.75
With the Canadian Bee Journal, W'y	(.75)	1.65
With the Bee Hive,	(.30)	1.20
With the Bee-Keepers' Review,	(.50)	1.40
With the British Bee-Journal,	(1.50)	2.40
With all of the above journals,		5.40
With American Apiculturist,	(.75)	1.70
With Bee-Keepers' Advance and Poultryman's Journal,	(.50)	1.45

With American Agriculturist,	(\$1.50)	2.25
With American Garden,	(2.00)	2.60
With Prairie Farmer,	(1.50)	2.35
With Rural New-Yorker,	(2.00)	2.90
With Farm Journal,	(.50)	1.20
With Scientific American,	(3.00)	3.75
With Ohio Farmer,	(1.00)	1.90
With Popular Gardening,	(1.00)	1.85
With U. S. Official Postal Guide,	(1.50)	2.25
With Sunday-School Times, weekly,	(1.50)	1.75
With Drainage and Farm Journal,	(1.00)	1.75
With Illustrated Home Journal,	(.50)	1.35
With Orchard and Garden,	(.50)	1.40
With Cosmopolitan, (new sub. to Cos.)	(2.40)	2.40

[Above Rates include all Postage in U. S. and Canada.]

DO YOU WANT

To succeed in apiculture? Then try the Nonpareil Bee-Hive and Winter Case. Send for catalogue of prices, and inclose 25 cts. in stamps for the new book, "Bee-Keeping for Profit," and you will not regret it. Address

DR. G. L. TINKER,
New Philadelphia, O.

21tfid

In responding to this advertisement mention GLEANINGS.

Cash for Beeswax!

Will pay 25c per lb. cash, or 28c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 31c per lb., or 35c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. Root, Medina, Ohio.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per annum, when given once a month, or \$4.00 per year if given in every issue.

Untested Queens

FOR \$1.00 FROM JULY 1ST TILL NOV. 1ST.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delays as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with * use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.

*H. H. Brown, Light Street, Col. Co., Pa. 7tfid90

*Paul L. Viallon, Bayou Goula, La. 7tfid90

*S. F. Newman, Norwalk, Huron Co., O. 7tfid90

C. C. Vaughn, Columbia, Tenn. 9tfid90

J. M. Jenkins, Wetumpka, Ala. 9tfid90

*Oliver Hoover & Co., Snyderstown, Northum-berland Co., Pa. 17tf90

D. A. McCord, Oxford, Butler Co., Ohio.

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.

P. L. Viallon, Bayou Goula, Iberville Par., La 7tfid90

C. W. Costellow, Waterboro, York Co., Me. 7tfid90

R. B. Leahy, Higginsville, Laf. Co., Mo. 9tfid90

J. M. Jenkins, Wetumpka, Ala. 9tfid90

W. T. Falconer Mfg. Co., Jamestown, N. Y. 7tfid

Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of CHARLTON, N. Y., says—"We cut with one of our Combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2,000 money-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it all with this Saw. It will do all you say it will."

Catalogue and Price List Free. Address W. F. & JOHN BARNES, 545 Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. A. I. Root.

23tfid

1890 ITALIAN QUEENS FOR BUSINESS! 18tfidb

W. H. LAWS, Lavaca, Ark.

NEW * FACTORY.

Bee-Hives, Sections, Frames, Etc.

We have moved into our new factory, which is the largest and most complete in the world. We make the best of goods, and sell them at lowest prices. Write for free illustrated catalogue.

G. B. LEWIS CO.,

17-tfbd

WATERTOWN, WIS.

In responding to this advertisement mention GLEANINGS.

FACTS! FACTS! FACTS!

The Bee-Keepers' Directory, 125 pages, price \$1.00. Thirty Years Among the Bees, \$2 pages, price 50 cts. The Am. Apiculturist, one year, price 75 cts. The above paper and books contain all the information necessary to produce honey by tons, and to rear queens by thousands. All mailed for \$1.25. Sample copies of Apiculturist free. Address

HENRY ALLEY, Wenham, Mass.



30 Quarto pages—50 cents a year.

AN Elegant Monthly for the FAMILY and FIRESIDE. Printed in the highest style of the art, and embellished with magnificent Engravings. Sample FREE. Agents Wanted.

THOMAS G. NEWMAN AND SON,
PUBLISHERS

246 East Madison St., - CHICAGO, ILL.

In responding to this advertisement mention GLEANINGS.

Pratt's Patent Binding Clamps.

For compressing sections and frames. It can be attached to inside of any hive without tools. Specially adapted to the new Dovetailed hive. Stronger and cheaper than thumb screws. It does away with all loose parts. Send for free description.

21-23-1d

E. L. PRATT,

Pratt Bee Farm, Beverly, Mass.

In responding to this advertisement mention GLEANINGS.

THE BEST HOLIDAY GIFT	A MUSICAL INSTRUMENT
SEND FOR CATALOGUE AND PRICE LIST	MURRAY & HEISS CLEVELAND, O. MUSICAL GOODS

In responding to this advertisement mention GLEANINGS.

FOR LIGHT AND DARK FERRETS,

and pure Poland-China Swine, address

N. A. KNAPP,
Rochester, Lorain Co., O.

In responding to this advertisement mention GLEANINGS.

EUREKA FRAME MACHINE.

Something every bee-keeper should have.

For price and particulars address

24-23db

F. W. LAMM,
Box 106, Somerville, Butler Co., O.

Please mention this paper.

24-23db

"HANDLING BEES." Price 8 Cts.

A chapter from "The Hive and Honey Bee, Revised," treating of taming and handling bees; just the thing for beginners. Circular, with advice to beginners, samples of foundation, etc., free.

4tdb

CHAS. DADANT & SON,
Hamilton, Hancock Co., Illinois.

In responding to this advertisement mention GLEANINGS.

SECTIONS.

\$2.50 to \$3.50 per M. Bee-Hives and Fixtures cheap.

NOVELTY CO.,

6tfdb

Rock Falls, Illinois.

Please mention this paper.

BEST ON EARTH



ELEVEN YEARS
WITHOUT A
PARALLEL, AND
THE STAND-
ARD IN EVERY
CIVILIZED
COUNTRY.



Bingham & Hetherington
Patent Uncapping-Knife,

Standard Size.

Bingham's Patent Smokers,

Six Sizes and Prices.

Doctor Smoker,	3 1/2 in.,	postpaid	...\$2.00
Conqueror "	3 "	"	... 1.75
Large "	2 1/2 "	"	... 1.50
Extra (wide shield)	2 "	"	... 1.25
Plain (narrow "	2 "	"	... 1.00
Little Wonder,	1 1/4 "	"65
Uncapping Knife.....			... 1.15

Sent promptly on receipt of price. To sell again, send for dozen and half-dozen rates.

Milledgeville, Ill., March 8, 1890.

SIRS:—Smokers received to-day, and count correctly. Am ready for orders. If others feel as I do your trade will boom. Truly, F. A. SNEEL.

Vermillion, S. Dak., Feb. 17, 1890.

SIRS:—I consider your smokers the best made for any purpose. I have had 15 years' experience with 300 or 400 swarms of bees, and know whereof I speak. Very truly, R. A. MORGAN.

Sarahsville, Ohio, March 12, 1890.

SIRS:—The smoker I have has done good service since 1883. Yours truly, DANIEL BROTHERS.

Send for descriptive circular and testimonials to

1tfdb BINGHAM & HETHERINGTON, Abionia, Mich.

In responding to this advertisement mention GLEANINGS.

DADANT'S FOUNDATION

Is kept for sale by Messrs. T. G. Newman & Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury, Neb.; G. L. Tinker, New Philadelphia, O. E. Kretchmer, Red Oak, Ia.; P. L. Viallon, Bayou Goula, La.; Jos. Nysewander, Des Moines, Ia.; C. H. Green, Waukesha, Wis.; G. B. Lewis & Co., Watertown, Wisconsin; J. Mattoon, Atwater, Ohio, Oliver Foster, Mt. Vernon, Iowa; C. Hertel, Freeburg, Illinois; Geo. E. Hilton, Fremont, Mich.; J. M. Clark & Co., 1517 Blake St., Denver, Colo.; Goodell & Woodworth Mfg. Co., Rock Falls, Ill.; E. L. Gould & Co., Brantford, Ont., Can.; R. H. Schmidt & Co., New London, Wis.; J. Stauffer & Sons, Nappanee, Ind.; Berlin Fruit-Box Co., Berlin Heights, O.; E. R. Newcomb, Pleasant Valley, N. Y.; L. Hanssen, Davenport, Ia.; C. Theilman, Theilmanton, Minn.; G. K. Hubbard, Fort Wayne, Ind.; T. H. Strickler, Solomon City, Kan.; E. C. Eaglesfield, Berlin, Wis.; Walter S. Pouder, Indianapolis, Ind., and numerous other dealers.

LANGSTROTH on the HONEY-BEE,

REVISED.

The Book for Beginners, the Most Complete Text-Book on the Subject in the English Language.

Bee-veils of Imported Material, Smokers, Sections, Etc.

Circular with advice to beginners, samples of foundation, etc., free. Send your address on a postal to

4tfdb

CHAS. DADANT & SON,

HAMILTON, HANCOCK CO., ILLINOIS.

In responding to this advertisement mention GLEANINGS.

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SPECIAL NOTICES.

POULTRY-NETTING ADVANCES DEC. 20.

Bear in mind, that only a little over two weeks remain in which you can buy wire netting at the present low prices. The 51st page of the new catalogue shows what the price will be next year. Notice the list of remnants on another page, which is subject to 10% discount before Jan. 1.

ORDERS FOR MACHINERY.

Some few orders for machinery have been somewhat delayed on account of the interruption and large amount of extra machine work incurred by moving into our new building. We are glad to say, however, that our workers in iron and steel are now nicely housed in a large airy room about three times the size of their former quarters, and will soon be in shape to turn out promptly all kinds of machine work.

A SECOND-HAND PLANER AT A BARGAIN.

We have on hand for sale a 24-inch heavy pony planer, made by Graham, of Rochester, in good repair. It cost new \$240; was used about three years in our works when we sent it back to the works and had it rebuilt new at an expense of \$50 and freight both ways. We used it only four or five months when we were obliged to put in its place a large double-surface planer to do our work. We offer the above machine, all ready to run, free on board cars, for \$150.

OUR PREMIUM LIST.

Some of you may be wondering what is keeping our premium list so late this year. The fact is, we shall not have any, but send you our catalogue instead. We shall offer special premiums from time to time during the coming months. For the present we wish to say that you may select any article in our catalogue as a premium; and each subscription you secure for GLEANINGS will count 25 cents toward the price of it, *provided* that in your list of names you have as many new subscriptions as renewals. Remember, the remaining numbers of this year after the subscription is received are sent free to new subscribers.

DISCOUNTS FOR EARLY ORDERS.

By the new catalogue you will notice that the 4% discount we have been allowing the past month is extended to December instead of dropping to 3%. A good many are taking advantage of these early-order discounts, and are sending us large orders. We are also shipping a number of carload orders to distant points. We have just shipped a carload of hives and sections to friend Ball, of Reno, Nev., who sent us the car of comb honey.

We are also loading a car of supplies for the Beekeepers' Association of Maricopa Co., Ariz., from whom we received a car of honey in August, and are daily expecting another. We have orders in for three or four more carloads for various points. We expect to load a car for Portland, Ore., within a month; and if any of our readers in Oregon or

Washington wish to secure carload rates of freight as far as Portland they should send their orders in at once. We hope, also, to make up one or more cars for Southern California within the next six weeks or two months at the outside; and if any in that section want to avail themselves of this opportunity they would do well to write or send their orders very soon.

NEW ENLARGED EDITION OF OUR CATALOGUE.

We have given our illustrated catalogue and price list a thorough revision, and added eight more pages of matter. In order that our readers may see what we have done, and be sure to have a new catalogue to order from, we are mailing a copy to each subscriber of GLEANINGS. If you fail to get it with this, or soon after, drop us a card and we will mail another.

I will briefly mention a few of the alterations, additions, and changes in price. The matter has been re-arranged a good deal; and in order that you may easily find any thing that you want, we have added a comprehensive index on the inside of front cover. The catalogue was formerly arranged with a view of making articles come in alphabetical order. This could not be strictly followed, as kindred articles, of necessity, must sometimes be mentioned together, though not beginning with the same letter. We have given up the alphabetical order, and arranged in a natural order, which you will notice as you turn over the pages. Notice the additional matter in the introductory pages, inducements to order early, and discount for so doing.

The following articles have advanced in price: Perforated zinc and honey-boards, all kinds; Simplicity feeders; a few of the hives have changed in price. Tin separators, tin pails, tin plate, and galvanized poultry-netting are advanced. A number of new articles have been added, which we will leave you to discover.

The discounts for large cash orders have been abolished, and the discounts for early orders take their place. You will observe, however, that the early-order discount applies only to such articles as we manufacture, found on pages 10 to 27 of the list. Much of the matter is entirely re-written. Some instructions are given in the matter of feeding and wintering. Further changes, especially in the Counter Store list, are anticipated. Any suggestions from our patrons that will lead to making the catalogue more helpful and convenient to order from, will be appreciated.

KIND WORDS FROM OUR CUSTOMERS.

GLEANINGS A PROFITABLE ADVERTISER.

I have been a constant advertiser in GLEANINGS for over four years, and can honestly say it is the best medium I ever used. C. M. GOODSPEED.

Skaneateles, N. Y., Nov. 17.

MORE ADVERTISING THAT PAID.

I am well pleased with the results of my advertising in GLEANINGS. I am all sold out of queens, and sending back money nearly every day. I received enough orders to take all the queens I had left in four days after my last ad't was out, and I had quite a large number of them too. ELMER HUTCHINSON.

Rogersville, Mich., Oct. 27.

A BIG BARGAIN FOR \$1.00.

SPECIAL CROPS, one year, \$1.00. MONTREAL FAMILY HERALD AND STAR (weekly), \$1.00. GOLDEN CENSOR (Rockford, Ill., weekly), \$1.25.

All of above one full year for \$1.00. Special Crops and either one of the others for 50 cts. This offer is good until Dec. 26. Renewals accepted same as new subs. Address C. M. GOODSPEED, Skaneateles, N. Y.

In responding to this advertisement mention GLEANINGS.

FOR SALE.

50 STANDS of bees; two Italians, others hybrid and blacks in 10-frame Simplicity and 8-frame Dovetailed hives. Price \$4 each.

J. HAMMOND,
Buena Vista, Scioto Co., Ohio.

In responding to this advertisement mention GLEANINGS.

THE CANADIAN

Bee Journal Poultry Journal

Edited by D. A. Jones. Edited by W. C. G. Peter.

75c. Per Year.

75c. Per Year.

These are published separately, alternate weeks, and are edited by live practical men, and contributed to by the best writers. Both Journals are interesting, and are alike valuable to the expert and amateur. Sample copies free. Both Journals one year to one address \$1. Until June 1st we will send either Journal on trial trip for 6 months for 25 cts.

The D. A. Jones Co., Ltd., Beeton, Ont.
Please mention GLEANINGS. t-11d

PURE WHITE PLYMOUTH ROCKS.

10 Cockerels for sale at \$1.01 each, if taken this month.
JOHN C. GILLILAND,
Bloomfield, Ind.

SECTIONS! SECTIONS! SECTIONS!

On and after Feb. 1, 1890, we will sell our No. 1 V-groove sections, in lots of 500, as follows: Less than 2000, \$3.50 per 1000; 2000 to 5000, \$3.00 per 1000. Write for special prices on larger quantities. No. 2 sections at \$2.00 per 1000. Send for price list on hives, foundation, cases, etc.

J. STAUFFER & SONS,
Successors to B. J. Miller & Co.,
Nappanee, Ind.

Wants or Exchange Department.

WANTED.—To exchange apiary of 150 colonies of bees. Will take any kind of farm stock, goods or groceries.
ANTHONY OPP, Helena, Ark.

WANTED.—To exchange warranted Italian queens to be shipped early in June and July, 1891, for solo alto horn or tenor B-flat trombone. Write and give particulars to
JAMES WOOD,
22-23-d North Prescott, Mass.

WANTED.—To exchange forest trees, for strawberry-plants, grapevines, and all kinds of small fruit-trees or offers.
W. G. MCLENDON,
Gaines' Landing, Chicot Co., Ark.

WANTED.—To exchange Italian bees in L. hives for beagle hounds, or will exchange fox-hounds for beagles.
J. B. MITCHELL,
23-24d Hawkinsville, Pulaski Co., Ga.

WANTED.—To exchange Perfect Hatcher, 176 eggs, cost \$75.00; and brooder, 300 chicks, cost \$38.00; been used at fairs a little, for Italian or hybrid bees.
23d ELIZABETH DIMICK, Burns, Alle. Co., N. Y.

WANTED.—To exchange one 6x9 self-inking press, with type, for 10-inch fdn. mill and wax-extractor, or best offers; also a 6-inch fdn. mill, for wax.
33-24d L. L. ISENHOWER, Reading, Pa.

WANTED.—To exchange new hearse for bees, in good L. hives, or comb honey.
23d J. H. TATMAN, Connerville, Ind.

WANTED.—To exchange a Breed's Universal Weeder, used one season, price \$12.00, for new Simplicity or Dovetailed hives or offers.
23d ELMER E. SHARP, South Greece, Monroe Co., N. Y.

WANTED.—To exchange bee-supplies for empty combs. Bee-friends, let us hear from you.
23d J. B. MURRAY, Ada, Hardin Co., Ohio.

WANTED.—To correspond with parties who wish to exchange beeswax for supplies.
GEO. RALL, Frenchville, Trem. Co., Wis.

WANTED.—Apicultural offers in exchange for plain and fancy job printing.
23-24d C. W. DAYTON, Clinton, Rock Co., Wis.

WANTED.—To correspond with parties having potatoes, onions, apples, and honey for sale. Prompt attention given to correspondence. Consignments solicited. Prompt returns made.
EARLE CLICKENGER, 121 So. 4th St., Columbus, O.

Job Lot of Wire Netting.

CUT PIECES AT A LOWER PRICE THAN FULL ROLLS.

Having bought from the factory, at our own price, five or six hundred remnants, as listed below, we are able to give you the choice of a great variety of pieces at the price of a full roll or lower. Full rolls of netting are 150 ft. long, and when they are cut we have to charge nearly double the full-roll rate, because it is so much trouble to unroll, measure, and cut, and run the risk of having a lot of remnants on hand. No doubt it is in this way that the following remnants have accumulated. It costs a good deal to get all this in shape so we can easily pick out from the lot the piece you want. But to move it off quickly, we put the price down so you can all have a chance at it. Remember, first come, first served. In ordering, therefore, name a second or third choice, or say that we may send the nearest we can if the piece selected is gone. On 5 pieces deduct 5 per cent, on 10 pieces 10 per cent. On all orders sent before Jan. 1, 1891, deduct 10 per cent. These remnants are shipped only from here. If any of you want to secure some, and don't want them shipped till later, when you will order something else, so as to save freight, pick out the pieces you want, send remittance with the order, with request to lay by till called for, and we will mark them as belonging to you. We prefer to ship them right out, however.

LIST OF POULTRY-NETTING REMNANTS.

Width in In's.	Size of Mesh.	No. of Wire.	Cts. p'r Sq. Ft.	Length of each piece. Multiply by the width in feet to get the number of square feet in each piece.
12	3	30	68, 50, 48, 47, 33, 30; 18 in., 50, 34, 24; 72 in., 95, 27.	
36	3	30	144, 66, 60, 54, 48, 38, 24, 22, 18, 17.	
48	2	20	70, 59, 55, 49, 47, 43, 25, 25, 6; 60 in., 47, 42, 32, 24.	
12	2	19	100, 92, 40.	
18	2	19	143, 103, 60, 50, 41, 28.	
36	2	19	58, 55, 51, 50, 47, 47, 45, 45, 43, 40, 38, 23, 22, 20, 19.	
42	2	19	50, 43, 15.	
48	2	19	89, 80, 60, 57, 49, 43, 40, 33, 30, 29, 26, 26, 23, 20, 14.	
60	2	19	98, 92, 48, 44, 42, 38, 32, 28, 25, 21, 20, 11, 9.	
72	2	19	134, 130, 120, 110, 108, 103, 103, 100, 94, 88, 81, 73, 72, 68, 67, 60, 50, 50, 48, 26, 25, 24, 20, 19.	
24	2	18	65, 28, 15; 12 in., 107, 43.	
36	2	18	144, 122, 100, 50, 43, 35, 17; 30 inches wide, 63, 25.	
48	2	18	105, 100, 44, 39, 29, 23; 42 inches wide, 60.	
72	2	18	61, 53, 48, 47, 37, 35, 22, 22; 60 in. wide, 67, 20.	
36	2	17	42, 23, 15; 24 in. wide, 77.	
48	2	17	78, 53, 32; 60 in. wide, 25.	
12	2	16	78, 59, 11; 18 in. wide, 72, 72, 40; 24 in. wide, 94, 88.	
36	2	16	36, 34, 32, 23, 14; 30 in. wide, 46, 44, 24.	
72	2	16	60, 58, 56; 48 in. wide, 70, 48, 46, 40, 26, 19; 60 in., 62.	
18	2	15	87, 61, 30; 12 in. wide, 100.	
24	2	15	120, 100, 90, 69, 52, 33, 33, 13.	
30	2	15	127, 40, 27, 25, 21, 15, 6; 60 in. wide, 21, 20.	
36	2	15	97, 47, 38, 38, 37, 24, 18, 17, 16, 15, 13, 7, 7, 6, 5.	
42	2	15	125, 121, 35, 26, 23, 20, 8; 72 in. wide, 36, 33, 9.	
48	2	15	72, 49, 48, 45, 38, 37, 30, 29, 26, 22, 14.	
36	2	14	29; 42 in., 71.	
24	1 1/2	20	41; 18 in. wide, 14; 30 in., 14.	
24	1 1/2	19	100, 66, 40; 42 in. wide, 85, 59.	
30	1 1/2	19	33, 33, 30; 36 in. wide, 47, 47, 45, 30.	
48	1 1/2	19	107, 72, 52, 35, 18; 60 in. wide, 56; 72 in., 64, 63, 10.	
18	1 1/2	18	40; 20 in., 110.	
48	1 1/2	18	34, 30, 28; 60 in., 65, 34, 19; 54 in., 12.	
30	1 1/2	18	79; 36 in., 14, 7; 42 in., 34; 48 in., 92.	
36	1 1/2	18	22, 8.	
36	1 1/2	17	48, 13, 10; 24 in., 86, 30; 30 in., 75; 48 in., 78.	
36	1 1/2	7	15, 11, 11, 10; 30 in., 6; 42 in., 30; 48 in., 23; 72 in., 8.	
48	1	20	53; 72 in., 51; 30 in., 96; 9 in., 40.	
24	1	19	63; 9 in., 24; 42 in., 50, 34; 48 in., 100, 40, 25; 60 in., 26; 18 in., 82, 50.	
32	1	18	85, 32; 9 in., 32; 10 in., 20; 24 in., 25; 30 in., 69, 51.	
36	1	18	37, 32; 43 in., 30; 60 in., 59.	
9	3/4	20	33, 7; 30 in., 37; 36 in., 75, 55.	
36	1	19	32; 24 in., 130.	
24	3	16	46, 19; 36 in., 86; 42 in., 14.	
36	3	15	43; 48 in., 60.	
24	3	14	150, 184; 48 in., 45; 72 in., 100, 70.	
14	4	14	166, 52, 35, 23.	
22	4	14	107, 68, 35, 17, 15, 10.	
30	4	14	52, 47, 36, 33, 30, 29, 19, 18, 13, 9.	
44	4	14	43, 37, 34, 25, 24, 23, 18.	
42	4	14	141, 117, 68, 62, 60, 23, 22, 15, 12, 12, 8, 6.	
46	4	14	82, 50, 44, 11, 5.	
18	8	13	68 ft.; 36 in., 200 ft. at 4c; 45 in., 247 ft. at 5c.	

Four and eight inch fencing. Price in fourth column is the price per foot in length.

A. I. ROOT, Medina, O.

HONEY COLUMN.

CITY MARKETS.

ALBANY.—Honey.—Receipts up to date 1900 cases of comb honey, and 212 packages of extracted. The market is very quiet at present, and prices remain unchanged.
CHAS. McCULLOCH & Co.,
Nov. 19. 339 Broadway, Albany, N. Y.

CINCINNATI.—Honey.—There is a good demand for all kinds of honey. Arrivals are fair of all but comb honey and Southern extracted. Small lots only of each are arriving and disposed of on arrival. California honey seems to be as highly appreciated in our market as the best clover honey. We quote choice comb honey nominal, at 16¢/lb. Extracted honey at 5½¢/lb on arrival. *Beeswax*, there is a good demand at 24¢/lb on arrival for good to choice yellow.
CHAS. F. MUTH & SON,
Nov. 12. Cincinnati, Ohio.

BOSTON.—Honey.—Fancy white one-pound combs selling at 19¢/20¢; fair to good, 17¢/18¢. No 2-lb. combs in this market. Buckwheat or off-colored honey not wanted at any price. Extracted selling at 7½¢/8½¢. No *beeswax* on hand. Demand good.
BLAKE & RIPLEY,
Nov. 19. Boston, Mass.

RIVERSIDE.—Honey.—Comb honey all shipped out of Southern California, and nine-tenths of the extracted. Latter selling in car lots to-day; white, 6¢/6½¢; light amber, 5½¢/6¢.
GRIFFIN & SKELEY COMPANY,
Nov. 12. Riverside, Cal.

ST. LOUIS.—Honey.—We note an active inquiry for strained and extracted honey in barrels at 6¢; cans, 7½¢; comb, white clover, 18¢/18½¢; dark, 15½¢/16½¢. *Beeswax*, prime, 25¢. D. G. TUTT GROCER CO.,
Nov. 19. St. Louis, Mo.

SAN FRANCISCO.—Honey.—Extracted honey is very firm and advancing, with a heavy demand for Europe as well as for the East, and we quote now 6¢/6½¢ for eastern shipment. Comb honey is scarce, and wanted at 13¢/14¢ for 1-lb. comb honey, and 10¢/12¢ for 2-lb. comb honey. *Beeswax* is scarce, and firm at about 23¢/24¢.
SCHACHT, LEMCKE & STEINER,
Oct. 22. 16 & 18 Drum St., San Francisco, Cal.

DETROIT.—Honey.—The demand for comb honey continues good, and brings 16¢ readily if a fair article. Extracted, 7¢/8¢. *Beeswax*, 27¢/28¢.
M. H. HUNT.

Bell Branch, Mich., Nov. 20, 1890.

ST. LOUIS.—Honey.—We quote choice white-clover honey in 1-lb. sections, single tier, 18¢; fancy, 20¢; double tier, 17¢/18¢. Dark and broken to fair stock, 12¢/15¢. Extracted in cans, 8¢/10¢; dark, 6¢/7¢; barrels, 5½¢/7¢, as to quality. *Beeswax*, prime, 25½¢/26¢; dark, less. The demand for honey is good, and the stocks here are very light.
W. B. WESTCOTT & Co.,
Nov. 24. St. Louis, Mo.

FOR SALE.—3000 lbs. light extracted honey in 60-lb. tin cans; and 800 lbs. nice comb honey in 12-lb. crates. Delivered on cars at 10¢ for extracted, and 18¢ for comb.
S. A. SHUCK, Liverpool, Ill.

FOR SALE.—One barrel of extracted honey, gathered mainly from false bonset and heartsease. This honey is well ripened and of fine flavor. Will take 8¢ per lb., f. o. b. here. Can put it up in 60-lb. square tin cans, at 8½¢ per lb. Cans are boxed two in a box. Correspondence solicited.
R. B. LEAHY, Higginsville, Mo.

WANTED.—Extracted honey, either white clover or linn. Send sample and quote lowest cash price.
WALTER S. POWDER,
175 E. Walnut St., Indianapolis, Ind.

FOR SALE.—One keg of No. 1 fancy clover honey; net weight, 111 lbs. \$10.00 buys it delivered on cars at Alamo. Address O. H. TOWNSEND,
Alamo, Kal. Co., Mich.

WANTED.—White comb and extracted honey; state price, package, etc. B. WALKER, 17tfdb
Capac, Mich., or Prairie du Chien, Wis.

FOR SALE.—Choice honey in sections, cans, and C. pails. Send for price list to OLIVER FOSTER, 12tfdb, Mt. Vernon, Ia.

WANTED.—Southern honey. Will pay 5½¢ cash on arrival for good Southern honey.
CHAS. F. MUTH & SON,
22-23-24-1-d Cincinnati, O.

WANTED. One or two thousands pounds of nice comb honey. Write giving amount on hand and price wanted. A. D. ELLINGWOOD, Berlin Falls, N. H. 17tfdb

FOR SALE.—50,000 lbs. of extra fine sage honey in 60 lb. tin cans. Also two carloads of light amber honey, for sale at 6¢ per lb., f. o. b.
L. E. MERCER & Son, Ventura, Ventura Co., Cal.

WANTED.

I want to purchase at once, a large lot of

Light - Colored Combs of Honey

IN SIMPLICITY FRAMES.

Must be built upon wired foundation. Each frame, with honey, to weigh not less than three pounds. Correspondence solicited.

GEO. D. POWELL,

81 & 83 Third St., Brooklyn, N. Y.

In responding to this advertisement mention GLEANINGS.

NEW FIRM.

W. D. SOPER & CO.

We are now in shape to manufacture every thing needed in the apary. Hives, sections, packing-boxes, etc., made to order. Get our prices before buying elsewhere.
W. D. SOPER & CO.,
19-17d 118 & 120 Washington St., Jackson, Mich.

Please mention this paper.

TO SUIT YOUR FANCY.

I will breed in 1891 both the **Five Banded Golden** and A. I. Root's strain of "**Honey**" Italian **Queens**. Orders booked now; pay when queens arrive. Every queen warranted. No blacks. In-close stamp for prices.

JACOB T. TIMPE, Grand Ledge, Mich.

In responding to this advertisement mention GLEANINGS.

MUTH'S HONEY - EXTRACTOR,

SQUARE GLASS HONEY-JARS,

TIN BUCKETS, BEE-HIVES, HONEY-

SECTIONS, &c., &c.

PERFECTION COLD-BLAST SMOKERS.

Apply to CHAS. F. MUTH & SON,
Cincinnati, Ohio.

P. S.—Send 10-cent stamp for "Practical Hints to Bee-keepers." Mention *Gleanings*. 1tfdb

1890 ITALIAN QUEENS FOR BUSINESS.
18tfdb W. H. LAWS, Lavaca, Ark



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MANUM AT HOME.

THIN OR THICK TOP - FRAMES IN VERMONT:
THE PROSPECTS FOR ANOTHER SEASON.

"Walk in, Charles. You are just the chap I want to see. I have been wishing some one would come in to chat with me. I have not had a good talk on bees since Mr. Root was here. I wish you had been here that day. You would have been interested in his talk on wide-thick top-bars and closed-end frames. Why, he had, as it were, every pocket stuffed full of wide end-bars, and a bundle of wide-deep top-bars under each arm, which he had collected while journeying through the State of New York; and, judging by the way he clung to them, I concluded he intended to take them all home with him."

"Well, how came he to become so greatly interested in so much surplus lumber?" asks Charles.

"Well, you know there has been much said in GLEANINGS of late on this subject, very many claiming that deep top-bars are a sure preventive of burr-combs; and many of the advocates of "deep top-bars" have attempted to show by their well-written articles that they are a success, and our young editor has caught the fever, and has got it bad. How long a run he will have, depends altogether upon what kind of remedies he takes, and in how large doses."

"I have never used top-bars any thicker than $\frac{3}{8}$," says Charles, "and I can hardly see the need of their being any thicker, unless it may be to prevent sagging; but I have no trouble with mine sagging; and surely with $\frac{1}{2}$ -thick bars there is $\frac{1}{8}$ of an inch to each frame of lost room; and, besides, there is just so much more space from the brood to the sections, that the bees have to travel over, to say nothing of the extra expense in lumber and work. Now, Manum, after talking with Ernest and reading the different articles on the subject,

what is your opinion as to the advantage the thick top-bars have over the thin, or $\frac{3}{8}$ bars? Do you think they will entirely prevent burr or brace combs being built?"

"Well, Charles, I will say to you just as I did to Ernest, that I have never used thicker top-bars than $\frac{3}{8}$ (mine now are all $\frac{3}{8}$), hence I do not consider myself prepared to decide, much less to advise. But I have had some experience with various kinds of hives and bees in different locations and in varied seasons, and I have pretty much come to the conclusion that the cause of the building of burr and brace combs is traceable to the strain of bees and the management or attention given the bees during any honey-flow, but more especially a late flow of honey. Of course, an improper space between the top of the frame and the bottom of the honey-board or bottom of sections, as well as the improper spacing of combs, has much to do, I believe, with burr-combs. But my experience of last fall, with a late flow of honey, leads me to believe that the one great cause of so much cry over burr-combs is due to a late flow of honey, which stimulates the bee instinct to fill up every vacant place or crevice at the approach of cold weather; hence these brace and burr combs are built to keep every thing secure and in a rigid position. This late flow, coming, as it does in most localities, after the surplus receptacles are removed, and being, as a matter of course, somewhat cramped for room, they have the very best of opportunity to exercise their bee-instinct to hedge in, much as we Northerners do for the winter, during our Indian summer. This fact we had the best of opportunity to observe last fall; for, you will remember, quite a number of my hives, as well as your own, were pretty well stuck up with burr-combs, especially the strong colonies that were full of honey. Therefore I am of the opinion that deep top-bars will not prevent the building of burr-combs during a good late flow of honey, or during any flow of honey when there is no other place to store it than in the brood-

chamber. However, there are very many extensive bee-keepers who use and recommend them, as well as closed-end frames. Notwithstanding that, as yet I do not feel the need of adopting them. They may be very essential in some localities, for surely some of our brightest lights say they are a success. I am, therefore, of the opinion that we Vermonters do not know it all yet. But, Charles, I can not help believing there is a little too much stress put upon the superiority of thick top-bars over thin ones."

"Have you got your bees all fed up for the winter?" asks Charles.

"Yes, all fed and packed, and my bee-work is done for this season. By reducing my number of colonies to a much less number than I have had for a number of years, I was able to feed them up to 25 pounds each, with only 14 barrels of sugar."

"Why! I thought you always fed up to 30 pounds," says Charles.

"Yes, I have usually; but, you see, when I came to examine my purse I found it rather thin. So I concluded to risk them with 25 pounds. That will winter them, and I can feed them in May, should they get nothing from soft maples and willows."

"What is the prospect for another year, judging from the present outlook?"

"Well, Charles, I never felt more hopeful in my life than I do this fall. Every thing, to me, looks very promising. Surely clover never looked better at this season of the year than it does this fall; and next year, being our *full* basswood year, it does seem to me that we ought to get another boom; and, with this hope uppermost in my mind, I am going to prepare for it this winter, in order to be ready for whatever nature may have in store for me. I feel so confident that we are to have an extra good honey crop next year that I am going to prepare and have in readiness 128 sections to each colony that I now have; that will be eight clamps, of 16 sections each, to the colony."

"Well, surely, Manum, you are counting on a large crop, sure. I think 100 sections to the colony would be enough."

"Yes, Charles, I am; and perhaps I am making too extensive preparations; but I believe it is well to be ready, and to get ready during the long winter, so as not to be obliged to sit up hot summer nights, when I am very tired, to prepare sections to meet the demands of a rush in the honey-flow. Be ye ready is the word."

Bristol, Vt., Nov., 1890. A. E. MANUM.

I should have been very glad to have met your friend Charles, but perhaps we can talk it over yet. I think I can explain our apparent differences. You Vermonters, or, at least, those bee-keepers round about you, use the Manum frame, the size of which is very nearly the crosswise Langstroth. Your top-bar is only about two-thirds the length of the top-bar on the Langstroth frame; hence I am not surprised that you and your friend should not be troubled with sagging of $\frac{3}{8}$ bars, when those of us using the Langstroth frame are. Dr. Miller, whom I have just visited, opened up a number of colonies for me. He has used exclusively, for years, top-bars $\frac{3}{8}$ inch thick; but you could scarcely find in his apiary a bar of that thickness that had not sagged more or less, and I think you will find about that state of affairs in most apiaries using the thin bars of Langstroth length, where the same is not supported by di-

agonal wires and a tin bar; and the majority of apiarists, if I am correctly informed, do not so brace their top-bars. To sum it up, your top-bar $\frac{3}{8}$ would be about equivalent to a Langstroth top-bar of $\frac{1}{2}$; and it begins to look as if $\frac{3}{8}$ inch thick, and a full inch wide, would answer.

There is no doubt that the strain of bees has something to do in the matter of building much or little burr-comb. We have observed the same thing in our own apiaries. The point is, we want to make *all* strains of bees quit that unnecessary work.

When I visited your place I was surprised that you did not have burr-combs on your top-bars, to the extent we do. It is quite likely that your bees do not build as many as the average Italians; but I think you told me that you used only $\frac{1}{4}$ -inch bee-space, and your bars were an inch wide. Either one of these factors alone, outside of any disposition on the part of the bees, would tend very materially to diminish the building of brace-combs.

Next time I visit you, friend M., I hope your friend Charles will be present. Possibly I am now over-enthusiastic, and the next time I visit you I may have changed my views a little. I don't wish to ever get to that point where I *won't* be set right if wrong. E. R.

THE RIGHT BEE-SPACE.

THE BURR-COMB QUESTION, AND THE SPACING OF FRAMES.

Referring to the burr-comb question, I do not understand why Mr. Elwood's inch-wide by $\frac{3}{8}$ -thick top-bars with distances "fixed" with closed end-bars are any better than the same bars would be with distances fixed with a spacing-stick or measure. The secret, probably, is in the inch-wide top-bars with $\frac{3}{8}$ spacing and no sagging. This fall my bees seem to be shoving up the quilts, and building brace-combs between the quilts and brood-frames, leaving little passageways for themselves. Measuring the ones just the right height for the bees, I find them an exact $\frac{3}{8}$. From this I should conclude that the right distance between the brood-combs and supers is $\frac{3}{8}$ of an inch. The distance between the top-bars should be twice $\frac{3}{8}$, or $\frac{3}{4}$, the old Langstroth bee-space. Then with the $1\frac{1}{8}$ spacing, give us the 1-inch top-bar, and we have the $\frac{3}{8}$ space between the bars.

The sections in T snipers can be held square with an extra set of T tins between the tops of the sections, the same as the bottom. The combined crate has given me the best satisfaction so far for a super, on account of the bars with insets to suit the sections. I presume the section-holders would do as well, although I have not tried them yet.

EGGS IN THE MANUFACTURE OF ROYAL JELLY.

Two or three experiments this summer incline me to the idea that bees use eggs in the manufacture of royal jelly for queen-cells. I have not yet been able to prove or disprove the idea. I wish somebody with more time would try it.

A drone is a son of his mother, but not of his father. In fact, he has no father. Although he has no father, yet he is a grandson of his

grandfather. He is only a half-brother to his mother's daughters. According to the above theory, it is important that we know the good qualities of the drone's grandparents when we wish to rear a special set of drones.

A queen lays a while, then takes a rest. I suppose she goes to "clucking," like an old hen. When she gets to "clucking," then she swarms if honey is coming in plentifully. Some queens, like old hens, "cluck" more than others.

Bonney, Pa., Oct. 14. PHILLO S. DELWORTH.

It doesn't matter how you fix frames, as far as the burr-comb question is concerned. The point is, *convenience* of the one or the other method. I feel very sure that frames fastened with separate and removable spacing-sticks can not be handled as rapidly as the Hoffman or closed-end frames. A visit to one of the large apiaries using either one of these frames will show you the difference.

I believe you are pretty nearly right in regard to bee-space; though $\frac{3}{16}$ is a little *too* small, a quarter-inch, a little scant, if any thing, is about right.

Bees do assuredly make way with eggs at times, but it remains to be proven whether they use them for food. This has been before advanced. Cheshire says the royal jelly is a secretion from glands in the head of the nurse-bees.

NOTES OF THE SEASON.

SOME VERY PRACTICAL SUGGESTIONS FROM H. R. BOARDMAN.

We have had another season of failure in the honey crop, but it has not been without its lessons of valuable instruction. This may compensate in a small degree, although it will not help us much in buying bread and butter this year. "What are we to do under such discouraging circumstances of continued failure?" I have been frequently asked. I can answer only for myself. I have already begun, with renewed energy and determination, the most careful preparations for the next season, determined to do my part more thoroughly and faithfully than it has been done, and I have yet confidence in this kind of work, even in a poor season. So long as the almost universal report shows that the bees were not in the condition they ought to have been at the beginning of the honey season, it is quite evident that some share of the responsibility for short crops rests with the bee-keeper, and is not chargeable wholly to poor seasons. Then the results of a colony here and there that had sufficient stores to keep up brood-rearing to the beginning of the honey harvest, are suggestive of the remedy. Yet I might as well admit, that, with all the energy and care we may throw into the business, the future of bee-keeping has no very flattering outlook in this part of the country. But even with all that seems discouraging, when I look about me and see the sharp competition for bread and butter in every department of life, it becomes evident to me that I *could* do no better at any thing else I might undertake, and perhaps I *should* not do as well.

BURR-COMBS.

The discussion at the Cleveland convention, upon thick top-bars as a means of preventing burr-combs in the bee-space above them, set me to thinking upon the subject, and especially the question asked by some one present—"Why do

bees build burr-combs?" and I have set about trying to discover some reasonable answer to the question. I find, in looking over the back numbers of the bee-journal, that favorable reports accompanied close spacing, and that unfavorable reports accompanied wide spacing. I went into an examination of my hives and supers that had been used, of which I had an abundant supply, and, almost without exception, these showed the burr-combs on the tops of the frames to be only a continuation of the combs built from below up through the bee-space by shallow or rudimentary cells built on the sides of the top-bars, and thus contracting the bee-space between the top-bars to that of the combs below. The same thing occurs at the sides of the frames, and burr-combs are built in the same manner between the side-bars and the sides of the hive whenever the hive becomes crowded, as I had ample opportunity of observing on some old $\frac{3}{4}$ -inch side-bars. The break-joint honey-board placed between the brood and surplus chambers intercepts these combs that are built upward from the edges of the top-bars, but does not prevent them—simply catches them in a bee-space provided for the purpose.

I said, if the frames were closely spaced it would at least prevent the bees from building up between the top-bars for lack of room, and deprive them of these starters from which to build these objectionable combs in the space above the frames. I accordingly arranged about 25 colonies, selected at random in four different apiaries, by spacing nine frames in a hive where I had used but 8. The hive is 12 inches inside. This would make the distance of the frames from center to center a little less than $1\frac{1}{2}$ inches. I do not undertake to show this to be just the right distance for spacing, but it approximates it, and answers the purpose of my experiment. In old colonies thus treated, the combs were trimmed down. In new swarms, natural combs were built only on starters. Most of the frames used were $\frac{7}{8}$ wide by $\frac{3}{4}$ thick; a few were an inch wide. I was agreeably surprised at the results of the experiment, as showing the advantages and benefits of close spacing of the frames. I will give the results as they appear to me from the experiment.

ADVANTAGES OF CLOSE SPACING.

1. It prevents, or very much reduces, the tendency to build burr-combs above the frames. In some colonies, tested where a close bee-space was preserved above the top-bars, as well as between them, *no burr-combs* were built at all; but where a wide space was allowed above the frames, more or less combs were built.

2. It secures the combs built of uniform thickness, smooth and even with the frames; consequently,

3. It makes them available for brood to their extreme edges.

4. It increases the capacity of the hive without enlarging it, in my case, one comb.

5. While the capacity of the hive is increased for brood, it is diminished for bees, and therefore crowds them out into the surplus apartment; and for the same reason,

6. It enables the bees to cover and protect more comb surface, and consequently to rear more brood and to build up faster.

7. Where natural comb is built it prevents the building of drone comb to a great extent. It will be seen that, in close spacing, the building of natural comb has some decided advantages, as the bees adjust or space their comb-centers throughout all their slightest undulations, in a more perfect manner than it is possible to do it by any artificial means. The great importance of this is apparent.

One important test yet remains—that of

wintering—which I shall make and watch with care during the coming winter.

THICK TOP-BARS.

I am not satisfied that thick top-bars alone, without close spacing, will have much effect in preventing burr-combs, although the difficulty of building the combs up between thick top-bars is increased in proportion to their thickness. Therefore thick top-bars and close spacing may be more efficient in producing the desired result than those of medium thickness, say $\frac{3}{8}$ inch. But before lumbering up all my hives with such bungling fixtures I should want to know beyond any question that some very decided advantage was to be gained by it. My frames are $\frac{3}{8}$ full all around. I was quite certain that I gained some advantages in having them so heavy. I have been told many times that they were too heavy—too much waste wood in the hive; that the extra thickness made them clumsy and awkward. But it is some relief now to find out that these frames which I have used all of these years were *not* too thick, but they prove now to be much further out of the way by being too thin. The Irishman who said, "Of all the axthames give me the middle one," quoted a very safe maxim. My advice would be, in introducing these extra-thick top-bars, "Go slow in making *all* such changes until the facts have been established by the most careful experiments." These any one can make in a small way without wasting very much hard-earned money.

FIXED FRAMES.

In close spacing, uniformity and accuracy become very important. There is just room enough, and none to spare, for each comb; and the result of crowding one comb out of its place in the least would result in an infringement upon the one next to it, shortening the cells, and making it unfit for brood. We might, with much care, space the frames so they would approximate uniformity at the top. But please tip up your hive, and look at the bottom of the frames if you really care to detect the errors of spacing in hanging frames. I made a spacer this season for my inexperienced help, which did the work very well and quickly; but when I came to examine the combs at the bottom of the hive afterward, I almost became discouraged with hanging frames. Close spacing, I am sure, would necessitate the use of some style of fixed frames which have some good features to recommend them.

I have moved bees quite extensively for several years, to catch the local honey-flow. In doing this, the frames all have to be examined and secured. During this work this season I assure you that many times the convenience of fixed frames was forcibly suggested to me.

BEE-ESCAPES.

Who doubts their being practical? Certainly no one who has had much experience with the simplest form of wire-cone escape for getting bees out of the supers, and knows how to use them. I use them entirely for removing all of my surplus, and have used them for several years. I know better how to use them than I did a few years ago, therefore with me they have become more practical. I use the one illustrated and described by me in *GLEANINGS* about two years ago. I doubt whether any improvement of importance has been made upon it since. It is so simple that any one can make it, and no one would think of taking off surplus without, after learning its value. I use it now, substantially as described by Mr. Reese.

JAPANESE BUCKWHEAT.

A piece of ground sown with Japanese and the old black variety of buckwheat this season,

side by side, shows the old variety to be much superior for bees, as it blooms fuller and remains longer in bloom.

MOVING BEES.

I read the very thrilling experience of friend Baldensperger, in moving bees on camels, with intense interest. It brings to the surface some vivid recollections of a similar kind. Although I never moved bees on camels, friend B. can count on my sympathies. I have some methods that are new and novel in this work, so far as I know.

H. R. BOARDMAN.

East Townsend, O., Sept. 20, 1890.

I have read your article with general interest. Perhaps bee-keepers have been depending too much on the season rather than on themselves.

You are so habitually careful in your observations and deductions, that your notes on the subjects touched upon are doubly valuable. You are drifting in the right direction: viz., fixed distances and dispensing with burr-combs. As to the latter, close and *exact* spacing, with an increase in thickness of the ordinary bars, are important. As to fixed distances, I believe that you and a good many others would use fixed distances *if* you could be convinced that they would not retard your present rate of frame manipulations. I may be over-sanguine, but I feel quite sure that *time*, and not a very long time either, will do it. Your first experience with them won't be favorable, but when you learn the "hang" of them you will be pleased.

About the bee-escape: I am also sanguine enough to believe that its real value is not sufficiently recognized. Mr. Manum uses it very much as you do, and he can take off a whole crop of honey from an apiary in three hours.

E. R.

SPRING DWINDLING.

MRS. HARRISON SAYS IT IS NOT AS BAD IN THE CELLAR.

Womanlike, I want to put in a word in reference to bees, that are wintered in the cellar, dwindling more in the spring than those that remain out of doors. My experience is, that they do not dwindle as much. Where bees are wintered on the principle of the good old golden rule, "Do unto others as you would that they should do to you," whether men, horses, or bees, their vitality will not be injured by cellar wintering. When our bees were removed from the cellar it was thoroughly cleansed and white-washed. The brick floor was scrubbed, and the dirty water was not allowed to soak away, but wiped up and carried out, and fresh water used. If there were any discharges from the bees on the surface not white-washed, it was scrubbed off. Ever since, the fresh air has been circulating through the sub-earth ventilator and open window above. The cellar is built in dry sandy soil, and there is no dampness—if any thing, it is too dry.

When the bees are carried into this clean, healthy cellar, the ventilation is kept to suit conditions, and dead bees are not allowed to accumulate and decay, but are swept up and carried out. If the bees get noisy toward spring I infer that they are thirsty, and either wet cloths are put at their entrance, or snow-

balls, and they quiet down. We winter our bees as an Englishman takes his beer—"alf and 'alf." One spring, the bees out of doors carried in large loads of pale yellow pollen the 2d and 3d of March; and it seemed too bad that the bees in the cellar could not have any of this fresh new bread. The spring proved to be a cold, inclement one, and bees could not fly for six weeks; and when the bees were removed from the cellar they were the strongest. We usually sell a few colonies every spring, and say to our customers, "Pick out your bees," and invariably they have chosen bees that wintered in the cellar.

BEET SUGAR, AND WHAT MR. THOS. WILLIAM COWAN SAYS OF IT.

Some one remarked, at the late convention, that white sugar is white sugar, whether made from sugar-cane, beets, or sorghum. It may be so, but I very much doubt it. Diamonds and charcoal are both carbon; but, are they the same? British bee-keepers have had experience with beet sugar; and if sugar is sugar, why does Mr. Cowan say that beet sugar will not do for winter feeding, but cane sugar must be used? I never knew of his having a sugar-cane plantation.

Mrs. L. HARNISOX.

Peoria, Ill., Nov. 12.

My good friend Mrs. H., your reasoning is good in regard to cellar wintering, and I hope practice corroborates it; but with our open winters south of Lake Erie, as we are, I am not sure that horses and cattle would be in greater vigor kept in basement stables, than if they had the run of the open air during mild weather; and in our localities bees certainly seem to have more vigor when they have a flight at least every month in the year.—I feel a little sorry that this matter of beet sugar being inferior has come into print at all, for it is surely a great big blunder. Before answering you I tried to hunt up a copy of a government report, telling of the progress made by the beet-sugar industry, and stating that the sugar consumed in the United States was now over 60 per cent made from beets. If the sugar from the beet industry differed in any respect whatsoever from that made from cane (of course I refer to white sugar), our government surely would have mentioned it. Will Prof. Cook please corroborate what I say?

CONTROLLING INCREASE.

THREE METHODS.

Two years ago, when the honey-season proved such a failure, I had my bees at a distance from home; and, deciding to bring them back in the fall, for two reasons I aimed to keep down increase within certain limits: viz., to have the fewer to team, and the fewer to put into winter quarters, as the capacity of my prospective cellar, which was not yet excavated, was going to be very limited. I was then working with the Jones single-story hive principally; and as, in the locality there was just enough honey came in during the season to provide liberally for brood-rearing without occupying any room for storing, the queen had full sway of the hives, and the bees multiplied "prodigiously," as the Antiquary would have said.

I had strong compunctions against controlling the increase by pinching the heads of good queens; and so, when I had all the bees desired, I resorted to the plan of hiving swarms back into the old hive without a queen, having picked up the queen, which is always clipped, and placed her with two or three combs and adhering bees, in an empty hive, which was placed at an angle alongside the other, and finally doubled up with it a little later on, when the swarming season was over. This was done when I had made all the addition to stock wanted, and when the honey-season was so well advanced that I had ceased to look for any more surplus honey.

All I had taken or did finally take that season, amounted to 400 lbs. from some 60 hives, spring count. I considered this way of preventing increase only a make-shift plan, of course; but the way I have managed the matter this past season has, I believe, a good deal more to commend it. I am still a learner—a novice you might say—but that tough old schoolmaster, Experience, has been knocking some things gradually into my head; and among them is this: That, with a two-story hive, increase can be controlled to a much better advantage, and, I believe, the prospects for surplus honey improved. I don't like the idea of resorting to the old barbarous habit of sulphuring the surplus bees at the end of the season, as some suggest. To me it seems at least unscientific, if not cruel, and I think there is surely a better way.

This season I was changing my frame from 12½ inches deep, 10¾ wide, to 10¾ deep, 12¾ wide, and the transferring was attended to right through the honey-flow, just as I could best crowd it in, and this reduced me to the following methods, which I found to work admirably:

1. As stocks got strong enough I added an empty super with, say, half a complement of frames of the new style, filled either with foundation or transferred comb, and the number of combs was added to gradually till the full quantity was made out. Two division-boards, of course, were used meantime. In only about one case in thirteen where I did this did I have a swarm, though the bees were remarkably strong. Our honey-season was a very poor one, however, and the queens, having so much scope for the exercise of their function, may on this account have been satisfied to stay at home.

The stocks in these hives were, at the end of the season, when breeding was over, shaken out of the lower story, which was removed, the bees being left to winter on the new-style frame of the upper story, which now takes the place of the original hive. The lower-story combs were then freed for extracting and transferring for next season. Part of the yard was attended to this way, and the other part as follows:

2. When a swarm would issue it was hived on the old stand on foundation, in the new-style hive, and the old hive placed on top.

When the brood had well hatched out, the queen-cells having been removed at the right time, the combs were extracted and transferred, then placed back on the swarm, in a super without a bottom-board, the quilt on the under hive being the only thing separating the two lots of bees. The upper-story entrance was left open for a few days.

The day after extracting and transferring frames, the separating quilt was pulled back an inch from the front, to let bees gradually mingle, and next day they might be removed altogether, and the upper entrance closed at nightfall with a strip. The bees would mingle

in the most harmonious way, and the upper story be made the receptacle for all surplus.

By this plan it was optional whether to leave the old queen in the lower story or do away with her and let her duties be taken up by a young one coming forward alone; but as I was satisfied with most of the queens already there, I carried on my rearing of such young queens as I wanted, elsewhere.

By following these methods I avoided undesirable increase, and assured good strong colonies for the fall flow, and for winter quarters, and had no call to resort to the inhuman practice of brimstoning. Next year I purpose to use a honey-board to confine the queen below.

Galt, Ont., Can., Nov. 7. R. W. McDONNELL.

The first method of preventing increase—that of placing the swarm in a hive at an angle to the old one is essentially the one advocated by Mr. Heddon several years ago. It does not always work. The two other plans are modifications of Mr. Heddon's plan of transferring. It is pretty generally conceded, that, if the queen is given unlimited breeding room above and below, in extracting, the bees are not apt to swarm.

A PLEA FOR OUR BRETHREN OF THE MEDICAL PROFESSION.

BY N. A. HUNT, AUTHOR OF TOBACCO MANUAL, ETC.

Dear Friend Root:—I was rather sorry to see the article headed "Medical Facts," in GLEANINGS for Nov. 1. Its influence, I fear, must be bad on many. We all know, of course, that not a few who practice medicine, even some who graduated at our best medical schools, for various reasons are not fitted to practice medicine.

Up to the time of the late war, and for some years after it, great numbers, especially in the West, took up the practice without any special preparation. Some I knew, who, having failed in other business, got a pair of saddle-bags and started out, thinking to make themselves physicians by practice. Happily that state of things has well nigh come to an end. When I went to Southern Illinois, in 1844, having myself had a medical education, I naturally took much interest in the success of physicians, and observed their modes of treatment. My ministerial duties gave me a good opportunity to do so. On the south of me the only regularly educated physician lived at Golconda, 50 miles distant; on the north I could reach a regularly educated physician by going 30 miles. But physicians were plentiful, nevertheless.

I have, for more than 50 years, been familiarly acquainted with physicians—Allopathics, Thompsonians, Eclectics, Homeopaths, and I have also, in an especial manner, tried to acquaint myself with the cold, tepid, and hot water system. As in religion (as you know, Bro. Root), experience is worth more than theory; so with me. Experience and observation in medicine have vastly more weight than mere theories.

Now for experience and observation, as it has come under my eye, in medicine. When I was about a dozen years old, one afternoon I went chestnutting and ate too freely of the nuts. Early in the night I began to vomit and purge. The doctor was sent for, but it was daylight before he reached me—pulse scarcely discernible, and nearly all sensibility gone. By remedies in his possession he restored me.

I have eight children living. Nearly all of

them, at some time in their lives, have been in critical conditions—something must be done, and done immediately. My youngest son, a few years ago, in spite of all my remedies and all the skill that I possessed, was fast sinking. I sent for another physician. He came, and took a course that I had not thought of—indeed, was ignorant of. It turned the scale, and my son recovered. During the last few months one of my daughters was thought to be lying at death's door. She was first taken with the grippe, then suffered a long run of typhoid fever, and, lastly, tumors formed internally. We had three physicians, of note, in the last extremity. Five surgical operations were performed on the tumors, and for two weeks nothing was taken by the mouth but ice-water; all nourishment and medicines were administered by enema. She is now well.

One fact I wish here to relate, not that it has any thing to do with the question I am discussing, but it should have weight in the discussion of the liquor and tobacco questions. After my daughter was fairly convalescent, we felt that the opiates, that had been used to a large extent, must be stopped. In the night I heard her in great distress, as it seemed. My wife got up, went to the sick-room, and stood by the bedside, where stood the trained nurse and one of my sons. She was crying and pleading bitterly for the morphine—an example of the drunkard, tobacco-user, and opium-eater. My son was resolute, and, in spite of the cries of his sister, whom he loved dearly, and the wishes of the nurse, he said, "No! it's time to stop the anodynes."

Some years ago a next-door neighbor was taken down with pneumonia, and wanted me to treat him. As I had carried him through a similar attack a year or two before, I consented. By the third or fourth day I saw that my remedies did not reach the case. I advised the family to send to the county-seat, where lived an eminent physician. He came, and, in kind, administered the same remedies that I had, but in much larger doses. The man recovered. It requires an accurate estimate of remaining vital forces to know when it is best to give double doses. I am sure I have witnessed wonderful success, in many instances, by increasing the dose double and treble the ordinary prescribed amount. But great skill is required in doing it.

About twenty years ago, on a visit to the East, I called to see a brother in Keene, N. H. When I got there he was unwell, and continued to get worse. On the third day after my arrival, and when I had calculated to start on, I felt that something more ought to be done than the young physician who was attending him was doing, and asked permission of the family to try to find an older physician in the city, and one of more experience. Such a one I found, and on the following day I felt it safe to pursue my journey. When I returned, two weeks later, my brother was up, and able to attend to business. For more than fifty years I have recognized not only the difference between the different schools of physicians, but the different treatment of physicians of the same school. Instances lie before me, in my mind, almost as thick as the manna did, six days out of seven, for the children of Israel to pick up as their daily food. The only question is, which to select from the common mass, to give a correct idea of what the practice of medicine should be, such as can be understood by the common reader. Leaving specific cases, we will turn to specific diseases.

Diseases change in form as they occur at different times, and under different circumstances. Scarlatina passes about, sometimes proving fatal in very many instances; at other times it is no more fatal than the measles ordinarily is

So with yellow fever, diphtheria, and, indeed, with most other epidemic diseases. The last time yellow fever appeared in the South, taking Jacksonville, Florida, as an example, only one in twelve cases proved fatal. It used to be said, when I was a boy, that in ordinary fevers, such as they then had in New England, that five out of six would recover, with good nursing, without medicine. I lived about 30 years where malarial fever prevailed in various forms, from fever and ague to continued bilious-typhoid. Our sheet-anchor remedies were some preparation of mercury and quinine. Four years ago I visited again the region of malaria, Illinois and Missouri, the southern part of both States, and, contrary to my expectation, I was taken down with malarial fever, identically the same that I had had so often 30 years before. The old remedies were used, blue-mass and quinine.

Before we quite dismiss the subject, whether physicians have a needed place in society, I want to call attention to surgery. Surgery belongs to the physician. None but a physician who understands anatomy, materia medica, and the vital forces of the human system, should use the "knife." In surgery, many valuable discoveries have been made during the present century. What middle-aged man ever heard of operating on ovarian tumor in his boyhood? A few years ago a physician started from Philadelphia, and in his trip to Minnesota and back he performed *ten* such operations. I happened to be acquainted with one of the ten. In all, I know three whose lives have been saved by removing such tumors. One of the three has been operated on three times for the same malady. I knew a girl thirty years ago who had had a large hole eaten through her cheek by the reckless use of calomel, as they said. The girl, as by instinct, kept her tongue in the hole (no doubt it felt better stopped than open). She was a sight to behold. A year or two ago I saw her again, and the cheek had no hole in it. She was a fine-looking lady. A surgeon had cut a piece of flesh from the arm, and caused it to grow into the cheek. Of course, the arm was fastened up to the cheek, and the flesh of the arm was not entirely severed till its adhesion to the cheek was secured. Who will undervalue such surgical skill?

Once, the patient in a surgical operation had to endure all the pain that the nervous system could inflict: now, we have found out how to suspend the feeling of the whole body, or a part of the body, for a time, and we can cut or manipulate at will, with little or no distressing pain to the patient while we are doing it. Is any thing gained to the human family by these late discoveries in medicine and surgery?

Then in regard to the compounding of medicines—how crude our medicines were sixty years ago, compared with what they are now! Now a physician can carry in his vest-pocket, in efficacy, what would have taken saddle-bags to carry when I was a boy. I know not where to stop exalting the medical profession, when in suitable hands, and the better part of man, the spiritual part, is enlisted in the work. Were I a young man, with the views I now have of the relation of God to man, and the correlative duties of man to God, I can't see how I could better follow the footsteps of my Redeemer than by doing what I could for my fellow-man in this life—when sick, restoring him to health; when mangled and bleeding, binding up his wounds, and, in so doing, I could more effectually minister to the spirit, to fit it for the *other* state of existence.

In concluding this article I wish to say that no small part of a physician's duty is to in-

struct the people while they are in health, or comparatively so. An ounce of preventives is often worth a pound of cure. Eat and drink moderately such things as ought to be eaten and drunk. Such things as, in their nature, are not calculated to sustain and build up the system, let alone, intoxicants and narcotics are of the latter class. If used as medicines, when the disease is subdued, stop the remedies. There is not an intelligent physician in the land, but will tell you that the use of liquor or tobacco tends to enervate the system, and makes it less able to resist disease, and less capable of throwing off disease when it has once invaded the system. N. A. HUNT.

Mapleton, Minn., Nov. 12.

Friend H. GLEANINGS did not mean to reflect by any means on the regular practicing physician. You are right in saying, however, that it requires wisdom and judgment in deciding *what* physician to employ when there are a great many. It is sometimes said, that "doctors disagree." May be some of you have heard the expression before. Well, is it not true that doctors are coming more into harmony than they have been? I confess it gives one's faith a severe shock when he consults different physicians, and they all contradict each other. In our town it is getting to be quite customary for physicians as well as ministers to counsel together; and it seems to me as if it gave us a glimpse of the "good time coming." Why shouldn't all the physicians of a small town, say like our own, unite together in giving counsel when the life of a beloved citizen is in great danger? By all means, let us have faith in the neighbors round about us. Of course, that does not mean the traveling ones.

RAMBLE NO. 33.

LAKE GEORGE.

Who can alight on as happy a shore
All the world o'er, all the world o'er?
—TENNYSON.

The peculiar charms of Lake George are found in several points, among which are beautiful scenery, clear and pure waters, and bracing air. The weary toiler in some rut of life's drudgery, for a brief season dwells upon this happy shore, and soon forgets the ache and the pain, exchanging them for the elastic step and the joyous laugh that throws dull care to the winds.

Every one who participated in the bee-keepers' camp at Lake George in August will attest to the happy time there enjoyed. The Rambler tried to be the first on the ground, but Nig was not so fleet of foot as the little sail boat of Larabee Bros., favored by a booming wind, and they distanced us by about an hour. We were, moreover, loaded with a variety of fishing-tackle that would puzzle the brains of Ike Walton himself. Brodie Higley, our 17-year-old companion, and the youngest bee-keeper of the camp, had borrowed all the fishing-tackle in two neighborhoods, and had every thing from a fiddle-string to a clothes-line, and was bound to clean out Lake George. Bros. Lockhart welcomed us, and we had a cordial hand-shake all around; and, pitching our tents, our camp began to assume quite a business air. We retired early, after the fatigues of the day; and

the waves lapping monotonously on the dock, a bull-frog melodiously blowing on his mouth-organ, and Brodie's nasal music, soon lulled the Rambler to a sweet repose.

The next day we perfected our camp, and appointed ourselves a reception committee of the whole, and received Mr. Barber, a bee-keeper who owns 40 colonies—save one. At evening we received our fisherman Brodie, who had industriously tried all of his fishing-tackle, and reported one minnow and three pickerel—save three pickerel.

The heavy clouds that had been skirmishing around all the afternoon finally got down to business, and the floods came. We all felt that something unusual was going to happen, and, sure enough, several Vermont ladies poured in upon us—Miss Douglass, Miss Wolcott, and Miss Andrews. After the excitement had subsided we all sought our respective lodgings.

The next day all nature was smiling. We donned our smiles also, and received Bro. E. R. Root, Mr. and Mrs. Knickerbocker, Messrs. John and Cyrus Andrews, and their natty little steamer; Miss Van Orden, Mrs. Fisher and son, Mr. Batchelor and friend. That evening was beguiled with song and story until the "wee sma' hours."

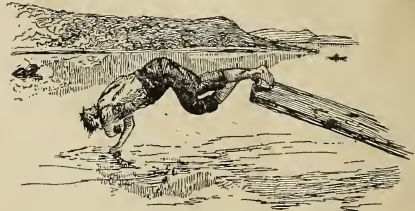
Quite a number of topics of national importance were discussed. Having an editor with us, editorial chirography was freely criticised. We were expressing our opinion of an Eastern editor's pen-tracks, when Brodie, who had been taking a private nap in the corner, shifted his position, and murmured, "Yes, it looks like pickerel tracks." We all smiled more or less audibly, and it was resolved that the Rambler go fishing on the morrow and teach his companion how to catch pickerel. It was also unanimously resolved that the type-writer is a blessing to bee-keepers.

At this point Bro. Larrabee took the floor, and declared war on England for opposing the McKinley tariff bill. He said Vermont could easily wipe out England. He had invented a bee bomb-shell that would scatter consternation wherever it fell. He had read about two or three bees breaking up a camp-meeting. A few Vermont swarms would rout a whole army; or we could take Cuba, or any other land. We were so impressed with the magnitude of this

ness we had some little discussion over the matter. Some one suggested that we allow time for his name to get to him, and call him ten minutes earlier. Another wished to abbreviate and call him Knick—no, that will degenerate into Old Knick. Say, we'll call him George—that's it! and it solved the difficulty—George was always prompt.

Bro. Root bade us farewell that morning, and set face toward Vermont. After the farewells had been spoken we turned our attention to fishing for pickerel, and came in, after a successful cruise in Dunham's Bay, with 19, the Rambler with the largest, and we thereafter dined on pickerel. The Hawkeye in the hands of W. Larrabee caught us as we landed.

On Friday our Vermont friends all departed. Farewells were spoken; regrets and locks of hair exchanged; and, as a last kind act, we waved our bandanas. Breaking camp is always a pathetic scene to us. Somebody is sure to forget something, and come tearing back after it. One lady forgot her b—bu—button-hook, and it became necessary to say good-by all over again. A second good-by, said by one party on the run, and out of breath, never has the *celat* of the first one.



BRODIE GOES IN SWIMMING.

After the final departure, Brodie and the Rambler finished the day with a fishing-trip—caught three pickerel; got stranded in a storm on Jacob's Rock; and, to make the final episode as interesting as possible, Brodie suddenly left me and went down to visit McGinty. But he was remembered by the Hawkeye and the

RAMBLER.

THE GREAT LOCUST OF FLORIDA.

LOCUSTS IN GENERAL.

The immense grasshopper, or locust, sent by E. J. Baird, Orlando, Fla., is a giant locust. It is a female, and actually measures over two inches in length. The wings are shorter than the abdomen, while the antennae are very plainly jointed, and taper to the end. Beneath, the pro-sternal spine is very large. The color of this Jumbo locust is yellow, orange-yellow, and black. The tegmina, as the upper wings of grasshoppers are called, are striped with red. The under wings, which in all grasshoppers are the important organs of flight, are marked with red and bordered with black. These wings fold up as we fold up our paper fans. They are powerful as organs of flight, and, in the migratory locusts of the Orient and our Western States, often bear the insects hundreds of miles. It is well known that locusts are great eaters, and often destroy nearly all vegetation. The locusts of which we read in Scripture were longer than this one, but not so robust. We have the Syrian locusts in our museum. They are interesting, not only as the insects that destroyed Pharaoh's crops and brought famine in the olden times, and in later years, but as the diet which in part supported John the Baptist. Our Katie is at present a Sabbath-



WE DINED ON PICKEREL.

theme that we again sought our couches. The Rambler had a fitful slumber. Bro. Root was so impressed he arose at 4 o'clock and went out on the mountain-side and sat on a rock. All the rest were very somnolent until a late hour. The breakfast-call, however, brought all hands around except Bro. Knickerbocker. As Bro. K. is always prompt in his queen busi-

school teacher. She asked for these great insects a few Sundays ago, to show her class. She said they interested her pupils greatly.

It would be interesting to know whether this Florida locust is very destructive. If very numerous they must be, as it would take no little herbage to fill so corpulent an insect. Birds are great enemies to the locusts, and usually keep them from doing much harm. Other insects also feed on locusts; but occasionally they become so numerous even here that they are exceedingly destructive. Usually the oat crop is the greatest sufferer from these gormands. The locusts can be poisoned, but this is laborious; and we may well protect the birds, or, out west, set trees to attract the birds, and thus escape the raids of these terrible destroyers. The name of the insect is *Dictyophorus reticulatus*.

A STRANGE BEETLE.

Mr. H. W. Mitchell, Hawks Park, Fla., has sent me a strange beetle for which he wishes a name through GLEANINGS. The beetle is dark brown, very large, nearly $1\frac{1}{2}$ inches long, and an inch broad. It might well be called the "rhinoceros" beetle, as it has three long curved horns on its thorax. These make it look very savage. The real name is *Strategus antæus*, Fab. It belongs to the same family as the common June beetle, which it resembles slightly, only this is broader in proportion to its length. It has similar habits. That is the larva which has six legs, lives in the ground, and feeds on roots. The beetle does little if any harm. It eats foliage a little, but not seriously.

Agricultural College, Mich. A. J. Cook.

Friend C., we are not only interested in locusts, but I for one am very glad to know that Katie is now a Sunday-school teacher. As the years go swiftly by, we forget that these little ones are constantly growing old; and it is a glorious thought, too, when we can think that they are growing old in the service of Christ Jesus.

ANOTHER OUTSIDE WINTERING CASE.

TRIED FOR FOUR YEARS, AND A SUCCESS.

I see in your foot-notes, in reply to Rambler, page 743, where he mentions Mr. Wm. B. Stephens as wintering his bees outdoors, packed in outside cases. Now, I have been practicing the same plan for the last four winters, with all the success that could be desired. I now have 70 colonies packed on their summer stands, and I do not anticipate the loss of one per cent during the winter. My cases are made to admit a packing 4 inches thick on the bottom and on each side, while on the top it is 6 inches. I make them in two sections for convenience in packing and unpacking, and the bottom is made a trifle smaller than the inside of the case which rests over it its thickness, and rests on the corner-posts, which are $1\frac{1}{2} \times 1\frac{1}{2}$ inches. My hives are made with an entrance the whole length of the end-board; and in order to make the same free from the outside of the case to the inside of the hive I take a board 4 in. wide, and as long as the hive is wide (outside measure), and nail a piece 1 in. wide by $\frac{3}{8}$ in. thick, just far enough from each end and across the board, so that, by letting the ends project a little, they will slide into the entrance close up to the side boards, and hold it fast. These cross-sticks must be long enough to receive the alighting-board, which is to be nailed on the other side of the cross-sticks from the other board, so that

the edge of the first board furthest from the hive will be just opposite the edge of the alighting-board next to the hive. I nail my case-bottoms to pieces of scantlings, and my hive-bottoms to pieces of 2x4, which, when placed on the bottom of the case, leaves a space for packing, as above stated. Now cut a piece from the center of the front end of the bottom case, as long as your hive is wide, and as deep as the distance from the top of the cross-pieces to the entrance-board to the lower side of the case bottom, and set on the lower section, and pack it. Then put on the other section, and pack that, and you will, in my opinion, have the best security for bees that can be devised.

Lanesboro, Pa., Oct. 27, 1890. P. L. NORTON.

The reason for proposing an outside wintering shell or case was to get something cheaper than a double-walled hive; but I fear, from the description of yours, it would cost as much or more than a double-walled chaff hive. We want something that will not cost over 35 cents at wholesale, and all in one piece. I have no doubt but that your case would winter the bees successfully.

E. R.

ERNEST'S NOTES OF TRAVEL IN VERMONT.

AT J. E. CRANE'S, MIDDLEBURY, VT.

I took the steamer up the lake to Ticonderoga, a town of 4000 inhabitants, at the head of the lake. A short distance out is the celebrated old fort bearing that name. As I retired that night at the hotel I promised myself the pleasure of seeing at least the site and a part of the wall of that old historical spot. Next morning I took the train, and was told that the fort was on the right-hand side in plain sight. I thought that I should surely be able to pick it out when I got to it; but, lo and behold! the first thing I knew I was three or four miles beyond it, and had not seen it.

My next point was Middlebury, Vt., the home of a prominent and extensive bee-keeper, Mr. J. E. Crane. As I neared the place I began to notice the big hills that I had left back in York State, and over in the distance the Green Mountains. I alighted at the depot, and inquired my way to Mr. Crane's. When I had arrived almost there, a handsome residence was pointed out to me, with ample lawn and commodious barn and shop. I inquired at the house, but found Mr. Crane was out in the back yard, in his garden. Like some other bee-keepers, small fruits are one of his hobbies. He began to talk about the different varieties, assuming that I understood all about them; but I had to confess, that, despite all the opportunities I had had, I knew little or nothing about such things. He seemed a little surprised, but I told him that I did not dare to get much interested in anything outside of bees; for if I did, I might lose interest in my real pursuit.

In the front part of the garden were a few hives. Most of his bees—500 or 600 colonies—were in out-apiaries. The hives were of the Manum type, although he was using the L. frame. He did not see but that he wintered his bees just as well as his friend and neighbor with a frame more nearly square. We repaired to the barn, wherein was his bee-shop and honey-storage room.

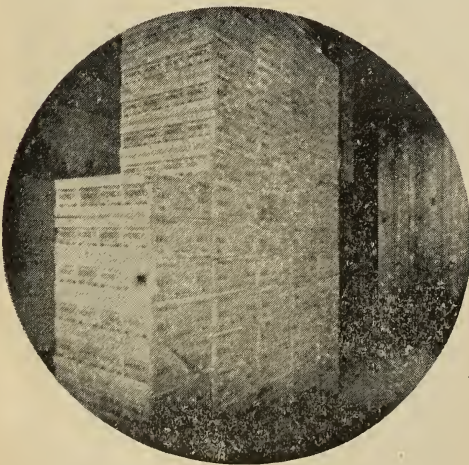
Our friend Mr. Crane has been rather more fortunate than most of his neighbors whom I visited. He obtained, I think, 11,000 lbs. of honey. The season had been a little better than with his friend Mr. Manum, only eight or nine miles distant.

Among the things in the shop that interested me particularly were the clamps, or honey-crates, for holding sections. There were also samples of the original thumb-screws that had been used for clamping up the sections some ten or twelve years ago. It seemed that Mr. Crane wanted some sort of arrangement to clamp up his sections; and I believe he suggested something in the nature of a screw. Mr. Manum, his appliance-maker and bee-keeping friend, soldered a brass thumb-plate to a common screw, and these they both used. But they, subsequently, used wooden screws, the same that Mr. Heddon has since adopted. But Mr. Crane has discarded them for a wedge. He thought it was more convenient, and did away with the unpleasant projections in the form of thumb-screws outside of the case.

HIVES WITH THE ENTRANCE THROUGH THE BOTTOM.

Among other things that interested me greatly was an old bottom-board. It had a square hole in the center, and an alighting-board under it. The bees, to enter the hive, pass under the bottom-board up through the aforesaid hole into the hive. Mr. Crane believed he was original in the use of such a bottom-entrance hive, he having devised this a great many years ago. There were many nice things about it; but, taking it all in all, he had discarded it for the ordinary entrance in front of the hive.

Perhaps I might remark, in passing, that Mr. Elwood, Mr. Manum, and Mr. Hetherington, use bottom entrances—that is, the bees pass directly *under* the hives. Mr. Elwood, when the bees are to be moved, closes the hole with a slide and the bees are shut in. For outdoor hives that are to be left on their summer stands



CRANE'S HONEY, READY FOR MARKET.

in double-walled hives, this sort of entrance is certainly a nice thing. It is quite impossible for the snow to bank up in any way so as to close it. For a single-walled cellar hive, the bees have only to be carried into the cellar, the slide withdrawn, and the bees have ample bottom ventilation. If I am correct, this is the way that Elwood, Hetherington, and L. C. Root give bottom ventilation in their cellars.

Another thing that interested me particularly was Mr. Crane's method of packing honey for market. He had a few thousand pounds already prepared for market. I photographed a pile of it standing in the barn, which I herewith present to you.

He puts all his honey in cartons, also neatly lettered. A certain number of cartons filled with honey just fill a case. They are not glassed, but the sides are left open, and the cartons are ample protection for the honey. The cases are made of beautiful white poplar, and are lettered by stencil in black and red, with a handsome monogram, and an old-fashioned straw bee-hive tastily arranged in the lettering. It is all carefully graded, and named according to the grade. The pile I photographed above was about the handsomest lot of honey for market I ever saw. I am sorry the print doesn't give it more justice. While I was admiring his honey, a little girl came out to the barn to see her papa. He seemed to be very proud of her, and well he might. When this little one came into his family he named her Theodora, from two Greek words, meaning "gift of God." I thought, "How nice it would be to have her sitting by two or three of those pretty crates of honey, out in the bright sunlight!" We arranged some crates, and by this time the boy came out. We stationed the two by the side of the cases, and with the Kodak I took two or three shots; but as it was near the end of the film it was not a good picture or else I should have been glad to introduce all our readers to little Theodora and her brother Philip, the latter named after Mr. Elwood.

We now went into the house, and I met Mrs. Crane. Into the parlor we repaired, and Mr. Crane said he would like to show me something he was interested in. He produced a box containing a large collection of stereoscopic slides, illustrating different phases of the temperance question, showing the effect of taxation, license, and prohibition. During his spare winter months he devotes his time to the cause of temperance, and lecturing on the subject. Perhaps some of our readers may know of him through the columns of other papers.

After dinner, Mr. Crane kindly offered to take me across the country to Mr. Manum's, who lives eight or nine miles away. We ascended some pretty big hills, and had some fine views of the surrounding country, and the fact seemed to impress me more than ever that a good bee-forage is generally found in mountainous or hilly countries. After a very pleasant drive and visit we reined up before Mr. Manum's house. You know the rest as given by Mr. Manum, recently. He was in his bee-shop, and, of course, the first thing I did was to get inside of it and look at all the fixings. "What is this? and what is that for? Oh! this is what you described in GLEANINGS. Ah! I see," and so on.

MANUM'S BEE-CANDY, ETC.

Mr. Manum has already told you that my stay was short, and so, of course, I put in the time about as fast as I could, asking questions after the manner of the above. There was his swarming-arrangement that he had described in GLEANINGS. He has a little frame for hatching queen-cells, the same as was described and illustrated on page 629 last year. He showed me a pan of his bee-candy. Why, *it would keep four years*, and still be soft, and good food for bees. I may remark in passing, that we are now experimenting with it, with the view of adopting it next year for mailing queens in the Benton cage. The trouble with the Good candy is, it is apt to get hard when it goes into a cold climate. We have had some lately that became as hard as a brick, and the bees actually starved to death, as was shown by inspection of the cages returned. Mr. Manum adds a very small quantity of *glycerine* to the sugar and honey to prevent this. To save you the trouble of referring to back numbers, I will give the formula:

Eight spoonfuls of coffee A sugar; one of wheat flour; one of glycerine; two of granulated honey. First mix the flour with the sugar, then add the glycerine and honey. Let it simmer on the stove until the sugar is dissolved, and then remove to cool.

MANUM'S CLAMP; THE ADVANTAGES OF COMPRESSION.

Of course, I was interested in his clamp, as he calls it; and surely it *is* a clamp. It is simply a small case for holding 16 sections, and the same are pressed together with thumb-screws and a follower. Messrs. Crane and Manum both use a similar arrangement; and I am satisfied, from what I saw at their places, that it is certainly an advantage in compressing the sections. In the apiaries I visited I noted *particularly*, that, where *compression* was used on the sections, there was a most *decided lessening of the propolis accumulations* on the sides of the sections coming in contact. The time saved in scraping afterward will more than save the expense of compression. We regard the wedge and follower so important that we have put it in all the supers for the Dovetailed hive.

Not the least advantage of the follower and wedge, or the thumb-screw, as the case may be, is the facility in removing sections; by simply loosening the thumb-screw or wedge, the sections are ready to be slipped out of the case.

MANUM'S LEATHER-COLORED ITALIANS.

That evening, while Mr. Manum was doing his chores, I strolled out among his bees, and raised the covers over his hives, and, although the air was a little chilly—enough so to make the bees a little irritable—I pulled up the covers and looked down upon the bees—yes, those leather-colored chaps that know how to gather honey. They were as gentle as kittens. I would not have blamed them at all for showing a little fight for coming upon them at such an inauspicious time. In fact, their general appearance is much like that of bees from imported queens, and their temper was strikingly the same. I do not say this to puff up our imported stock, but simply that Mr. Manum, through a careful selection of years, has raised a lot of bees possessing strikingly the characteristics of those reared in mother Italy. One thing that struck me as I was looking over those bees from those hasty glances, was the fewness of burr-combs. This matter has been already touched upon in this journal by Mr. Manum and myself elsewhere; see page 839.

MANUM'S CHAFF HIVE.

Although Mr. Manum had carefully described his hive, with appropriate illustrations in GLEANINGS, some time ago, I never understood before that he uses virtually an outside protecting shell over and around the ordinary brood-nest—single wall. His "brood-box," as he calls it, is made of $\frac{3}{4}$ stuff, and sits right down on the large bottom-board for the outside protecting-shell. To enter this hive, the bees pass under the bottom-board through a hole. The outside shell is simply a large case having a hinged cover, leaving some three or four inches space around the brood-box, or, as we might call it, an ordinary single-walled hive. Common planer shavings are poured in around the brood-box until they are level with its height. When the bees are packed for winter, an ordinary cushion sits down over the whole.

In very many respects I like Mr. Manum's hive. If he should so prefer, he can remove his bees in the ordinary single-walled hives, and afterward bring along the outside shells. In other words, he is not obliged to lug along a great big hive in order to carry an ordinary-

sized colony. He simply lifts out its inside, and then he can lay the narrow outside cases in a large wagon having a hay-rack, or any thing suitable for carrying something so bulky.

It was getting dark, so I could not pursue my investigations further, hoping to reserve the rest for the morrow. That evening Mr. Manum and I had one of those unconventional bee-conventions all by ourselves. His son Fred, who has charge of one of his apiaries, was present part of the time. When I asked where he was, his father smilingly said, "When I have visitors, and we begin talking about bees, he is up and off."

I have no doubt that Fred is as I used to be. Before I forget it, I might say that he is a young man 21 or 22. He is quite an expert apiarist, and is one of those fellows who like to have every thing neat and tidy, but he does not like to talk bees everlastingly. His father seems to have lost none of his old enthusiasm; and as each new subject was brought up, his face would light up with pleasure, for he always has something practical to relate. We did not sit up and talk *all* night—no; we went to bed at a late hour, and the next morning we were ready for business. But, oh dear! it was raining, raining, raining, and it looked as if it would continue all day, and it did. We employed the time profitably, I think, by talking; but, how I *did* want to go out into that apiary again! Finally, along in the afternoon, with umbrellas and gossamers, we went out into the yard in spite of the rain, and then I had a chance to see those leather-colored bees a little more plainly. I asked Mr. Manum what he thought of the golden Italians. They are too short-lived and delicate for the business—at least for him. He did not object to their being yellow, but, as a general thing, the bees that do the best work are after the darker order.

As was explained by Mr. Manum, he had designed to take me among the bee-keepers of that section, but it rained so furiously that that was out of the question, and I bade my friend good-by, expressing the wish that I might come again and make my visit a little longer.

I found Mr. Manum to be all that I expected, from his writings. He is progressive, ingenious, systematic, and thoroughly practical. I said "systematic." He is extremely so; and this may account in no small degree for his success. From what I saw of him I should judge he has a very pleasant faculty of getting along with his boys, and making them do just what he wants them to do, with few or no rebukes. In fact, there is nothing I should like better than to work a season with him myself.

As I am about to close I regret that more bee-keepers can not have the time and money to visit each other more than they do; and I hope, therefore, that I can make these notes more of a permanent feature than I have done heretofore. If there is any thing that our readers wish to know, that I have not sufficiently touched upon, please write, and I will either give further particulars or ask the bee-keepers directly concerned to answer it. This finishes my notes of travel on my eastern tour. Next time I hope to tell you something about the Dardants and Dr. Miller.

KEEPING RECORD OF HIVES.

HOW FRIEND MUTH-RASMUSSEN DOES IT.

Friend Root:—During this honey season I have kept track of the work in the apiary by using your slate tablets in connection with small stones in different positions on the hive-covers. On the side of the slate, turning toward the hive, I note any thing that has to be pre-

served for the permanent record of the season; as, when super was put on, when emptied, etc., which gives me at the end of the season a complete record of the doings of each colony, to be entered, if desired, in the record-book, which will enable me next year to decide which queens to breed from, which colonies must be requeened, etc. On the side of the slate facing outward I simply write in large figures the date when last I opened the hive; and the stone or stones on the cover tell me of the last work done, or the progress or condition of the colony when last examined.

This system would be perfectly satisfactory if only the constant change of date in writing could be avoided. The permanent record must, of course, be written, and for this reason I would continue the use of slates, though in a more limited degree. But the ordinary work with or examination of hive or super can be recorded by the position of the stones, of which each bee-keeper can form a code of his own, while the date could be changed without the necessity of writing, by using a *date-card*. I have thought of using your queen-registering cards for this purpose; but the trouble is, that the date figures are so small that one has to stoop low to read them. I would have the figures so large and plain that the bee-keeper can read them without difficulty, as he walks along in the rear of the hives; larger, if possible, than those on the sample card. As the seasons vary in different parts of the world, the abbreviated names of *all* twelve months should be printed in the other circle. The date-card should be about the size of an ordinary postal card, and should contain only the two circles for the months and dates, and a place for the number of the hive—nothing else. I presume that pins can be obtained, long enough for the larger circle. Black pins would be best; hairpins cut in two might answer the purpose.

Where one has a large number of colonies to go over in a day it is quite an item to be able to avoid much writing, particularly when the hands are soiled with honey or propolis.

I think these cards will prove a boon to the bee-keeping fraternity, if you will get them up and keep them in stock, at, say, a cent each, 75 cents per hundred, \$5.00 per 1000, or whatever you can make them for. I myself would use 150 or 200 each season. If you think favorably of it, please get them ready for next season's use.

In regard to the position of the stones, I will give my present system as used, while the supers are on the hives, viz.:

7	6	5
8	9	4
1	2	3

Rear.

- 1, emptied first time.
- 2, emptied second time.
- 3, emptied third time.
- 1 (2 stones), emptied fourth time, etc.
- 4, doing nothing.
- 5, sections not yet capped.
- 6, ready to come off in about a week.
- 7, ready to come off in a few days.
- 8, super put on (see date).
- 9, look at the slate.

This may be varied to suit each individual, and the same marks may have other meanings when no super is on the hive. To me the system has been of great benefit, as I could read at a distance the record of each hive, and it would have been perfectly satisfactory, if I could have had the use of the date-cards.

I have used the stones for several years, and am aware that others are using them also; but the date-cards are a new idea of my own, and I hope are long to see them in general use.

WM. MUTH-RASMUSSEN.

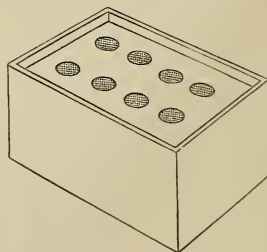
Independence, Cal., Aug. 4.

Friend M., I am glad to see you developing our old queen-cards that I was so enthusiastic over when they first came out. Since you suggest it, we can easily print these cards the size of a postal card, and we can also print the numbers on from 1 up. Black pins can be had at the millinery stores. Just ask for mourning-pins, and you will get exactly what you want. Now, before we set up the type to print these, we should like to know how many want them at the price you mention. We can make the numbers large, plain, and black; put them in packets of 100 and print them on waterproof paper or cardboard, at the price given, providing 100 or more will take a pack of cards.—Your idea in regard to the stones is very suggestive. It reminds one of that queer science called "mnemonics."

THE BEE-ESCAPE PREFERRED BY H. L. JEFFREY.

THE OLD PERPENDICULAR CONE THE BEST.

I send you a draft of a bee-escape we like best. The sides and ends are 5 inches deep. The ends are $\frac{3}{4}$ inch thick, and are rabbeted out $\frac{1}{2}$ inch deep. The sides are $\frac{1}{2}$ inch thick. The escape-board is also $\frac{1}{2}$ inch thick, 13 inches wide, 19 long. It is to be let down into the end rabbets, leaving it $\frac{3}{8}$ below the top edge when in place. Make 8 holes in it 2 inches in diameter, and bend the upper edge to 3 inches. Make the cones so that they will be about $2\frac{1}{2}$ inches deep when formed with a scant half-inch at the apex. Fasten these from the upper side, then make another set of cones, that will be 3 inches deep, from a square of wire cloth, and have it about an inch larger in diameter than the inner cone, and make the egress $\frac{1}{2}$ inch in diameter. Nail this on the under side by turning up the corners. If thus made there will be a full inch space below the cones above the top of the frames, and plenty of room for nearly a swarm of bees on the under side of the escape-board. The wire cloth can be cut 5 inches square for the cones. By using the deep rims and 3-inch cones, two or three crates can be placed upon the escape at one time; but if only one crate is



THE FORM OF ESCAPE USED BY JEFFREY.

taken from the hive at one time, an escape with a $3\frac{1}{2}$ -inch rim and $1\frac{1}{2}$ -inch cones will do. But give me the deep one every time. I have used two sorts, one with the board flush with the top of the rim for crates, with bee-space under side; and for the crates with boxes flush with the bottom, the escape has the top bee-

space. I am indebted to Mr. Reese for this escape.
H. L. JEFFREY.

New Milford, Ct., Nov., 1890.

Our engravers have made the super too deep. If half the depth, its proportion would be about right. There is no question but that this escape will work. In our special number, some time ago, on bee-escapes, it was shown that a space *below* the escape, of *two or three inches*, was a decided advantage. There has never been any question as to whether the original Reese would work; but because it stuck up in the way, the "horizontal" was devised by Mr. Dibbern. His pear-shaped model has worked very nicely with us, and is much less liable to be damaged than the perpendicular Reese. The latter form is cheaper to construct.

STRAY STRAWS.

EDITED BY DR. C. C. MILLER.

Charming fall weather.

It seemed lonesome without the Michigan-ers, Prof. Cook and editor Hutchinson, at Keokuk.

Henry Alley believes in closed-end frames, and will hereafter use 7-frame hives.

Alley wants to spot the fellow who invented pulverized sugar and honey for shipping-cages.

A prominent manufacturing concern takes control of one of the bee-journals Jan. 1. "Which one?" I won't tell.

The name "International American Bee-association" has been changed back to "North American Bee-keepers' Society." Good! It's to be incorporated.

Is it because Doolittle raises capital queens that he always says "Queens" in his book, or did his publisher run out of lower-case q's?

I took 27 colonies into the cellar Oct. 28. The last of my bees were not taken in till Nov. 8. Four are left out for experiment.

Elwood, the new president of the N. A., is a man of weight—some 200 pounds of it. And that's not the only kind of weight he has.

Hutchinson thinks an editor and publisher should keep out of the supply-business—if he can. Can he? The *Review* isn't very old yet. It's a good paper, though.

Delegates of affiliated societies sat on the platform at Keokuk. If ever the society becomes truly representative, it will have to meet in a hall whose floor is *all* platform.

My bees don't hang in such large clusters under the bottom-bars as they did last winter. They seem as heavy with honey and as strong in bees, but perhaps they are not.

The Ontario Bee-keepers' Association not only sends a delegate to the N. A. convention, but pays his expenses. Canadians can't brag with us, but sometimes they beat us in having something worth bragging about.

President Taylor and Vice-president Secor are alike in one respect, both having faces so barricaded with beard that they look as solemn as undertakers. But there's lots of fun back of the barricade.

Does the roaring of a particular colony in the cellar mean any thing wrong? Doesn't every colony have a periodic rousing-up, to turn over in bed, take a lunch, or something of that sort?

Samuel Cushman, superintendent of Rhode Island Experiment Station, after several years' trial, recommends Simmons' dry-sugar feeding

in spring—C sugar, put in a feeder where the heat and moisture of the hive are confined.

In his paper at Keokuk, Rev. W. F. Clarke says I called him "long-winded," and makes the secretary his authority for it. I don't know that I ever *said* so. Is one of them a mind-reader?

The old vice-president and secretary of the N. A. were re-elected, but E. R. Root beat me for treasurer. That's always the way. Whenever I get at any thing that has money in it, I always lose my job.

What's the reason that that \$5000 has been kept so still? I mean that \$5000 to which Prof. Cook referred in his essay at the North American convention. Ought not the bee-journals to tell us all about it?

Isn't there a fading-out of the strong advocacy for upward ventilation? A good many of the former upward ventilationists, myself among the number, now want every thing glued up tight on top, in winter. It's lots handier. But larger bottom ventilation has come.

Is it true, as a general rule, that the nearer you get to a lot of bee-keepers, the brighter they seem? I had no idea there were so many bright bee-keepers within hail of Keokuk. I was disappointed in not seeing Dibbern and some others there.

Three-sixteenths of an inch is what the *Api.* calls a bee-space. That's the least space I believe in which a bee can stand up straight; and if any one attempts to make it less, so the bees will have to get down on their hands and knees, there'll be trouble.

UNITING.

Considerable testimony is given in the *British Bee Journal*, to show that bees may be readily united by simply dredging the bees of both colonies with flour, whether they be on or off the combs. Some say they have practiced it for years. It's easily tried.

The *C. B. J.* reports two cases in which a cluster of bees without combs or stores has hung a good many days in the fall "without visible means of support," but bright and lively. It raises the question as to whether it may not be a good plan to keep bees in this condition "between the close of the surplus-honey harvest and the putting of the bees into winter quarters."

H. Alley and E. L. Pratt agree that colonies heavy with stores at the close of the honey season consume these stores, and are no better off in the fall than those that were light. Alley says, "We have come to the conclusion, that, at the end of the honey-flow another season, we shall remove nearly all the honey from the brood-combs, and thus compel the bees to make their own living from day to day. . . . It strikes me that this plan for retarding brood-rearing and also in economizing the consumption of stores, will be successful. If necessary to feed back in the fall, the honey will be on hand for the purpose." This is closely in line with D. A. Jones' swarm hanging with no combs. It may lead to something.

Can't GLEANINGS put the name of each writer at the *beginning* instead of the *end* of his contribution? It isn't pleasant to wait till a man is through talking before you see who he is. Also, it would be a comfort if "A. I." or "E. R." were signed to all the editorial comments. It's a bit confusing sometimes as it is.

The *Apiculturist* commends A. I. Root for paying \$50.00 to Benton for the benefit of his experiments in shipping-cages. I wonder whether Bro. Root's opposition to patents doesn't arise from a desire to crush out the government and monopolize the business. In several cases I think he has paid more for in-

ventions than a government patent would have brought.

THE THICK-TOP-BAR BOOM.

This gets an encouraging pat on the back from the *Apiculturist* and *C. B. J.* Heddon doesn't say any thing about it lately—lying low till he sees the collapse of the whole thing, when he may repeat his Chicago statement: "When you throw up a brick, and it stays up without ever coming down, then you may expect to dispense with slatted honey-boards."

THE INTERNATIONAL BEE-ASSOCIATION.

NOTES BY ERNEST, CONTINUED FROM PAGE 809.

W. Z. Hutchinson, on account of ill health, was not able to be present; but Dr. Miller read, in clear and distinct tones, his paper, entitled

APICULTURAL JOURNALISM.

Mr. Hutchinson touched upon the growing tendency of the times toward *specialism*. With the need of specialty in production, came the need of specialty in periodicals; and why not in bee-journals? He did not believe it paid to "mix in" other specialties. He would give attention to quality, and would keep out the trifling experiences of beginners. The author's name he would have at the head of the article, so as not to be obliged to turn over the leaf to see who the writer is. He opposed the idea that *all* should write briefly so that all may be heard from. A long article he would welcome just as much as a short one, provided the former contained valuable matter in proportion to its length. Advertising matter in bee-papers he thought should pertain to bees. He would not have his advertisements from bee-men overshadowed by buggies, patent medicines, trusses, etc. He would have the journal stopped at the time paid for.

At the conclusion of the paper quite a discussion arose. Dr. Miller wanted the buggies and other *useful* things, because it helped to make a better paper. Mr. Newman argued that the advertisements of useful articles, whether pertaining to bees or not, were the life of a periodical. A bee-paper could not be supported without them. The opinion seemed to be abstracted from the paper, that Bro. Hutchinson would cast *all* bee-journals from the same mold. It was insisted that each journal should retain its individuality, and that, for any one of them to follow exactly the policy Bro. Hutchinson outlined, would be detrimental to their best success.

Dr. Mason read an essay on the apiarian exhibit at the Columbian World's Fair in 1893. He gave some correspondence between himself and the Exposition Management. He would have all the exhibits from the whole world grouped together; then the exhibit from each nation and State by itself, with a superintendent to assign location and space, with a general oversight over all. It would add much interest to the display to have the name of every article marked or placed upon it, so that an unsuspecting public would not call beeswax maple sugar, extracted honey maple syrup, extractors churns, etc. If possible, there should be an apiary on the grounds, and with a large display of growing and blossoming honey-plants. He recommended that the bee-keepers of the several States should apply for an appropriation. After reading the paper, a committee was appointed, composed of Dr. Mason, R. McKnight, and T. G. Newman, to confer with the authorities of the World's Fair in regard to space, etc., for the necessary exhibits of honey and apicultural appliances.

R. McKnight gave us some good suggestions

at this point. He had had long experience in this line. A great deal of money is needed for exhibits, and this ought to be furnished by the different States and provinces. He thought the bee-keepers of each State should ask for appropriations from their legislatures.

Dr. Mason said that, at the International Exposition at New Orleans, the State of Ohio gave \$500 to a bee-keeper to take charge of the State exhibit, and he proposed to ask the State of Ohio to give \$1500 for Ohio's bee-exhibit at the Columbian Fair.

Dr. Mason was recommended by the society as a suitable superintendent of the exhibit for the United States. Certainly there can be no one better qualified for that place, within our own borders, than he. He is interested as no one else is, in apicultural exhibits, and he is the man to have charge of the matter.

THE INTERNATIONAL BEE-ASSOCIATION—ITS PAST AND FUTURE.

This was the subject of a very interesting paper by W. F. Clarke. He referred to Mr. T. G. Newman as being the historian of this society, and the splendid work he had done for it. Prof. Cook was the father of it, and he thought we owed as many thanks to him as to his historian, for he was not only the author of its being, but he had helped to make its history. One of its first works was to elevate father Langstroth to the pedestal of honorable distinction. At the outset of the organization an attempt was made to start a rival association; but by judicious management the two were amalgamated, and father Langstroth was made president of the combination. The presidency next fell to the late Moses Quinby. Of him he said, "If there ever was a just man on earth, Moses Quinby was one. His services to bee-keepers are second only to those of Rev. L. L. Langstroth." He would emphasize the influence the association had in keeping reputable bee-keepers at the front. He would urge that the association be more representative in character. The only defect in it was, that there were too few "wise men of the East" present; and but for the kindness of the Ontario Bee-keepers' Association he himself would not have been present. They had sent him as a delegate, and paid his expenses, and they proposed to continue to do so. He held it up as an example for State associations.

At the close of the paper Mr. Newman emphasized Mr. Clarke's point, that the association should be *representative*, and that State and Territorial associations should send delegates, and *pay their expenses*. Bee-men generally can not afford the outlay for themselves. This matter was touched upon elsewhere in our last issue, and I hope our associations will take the matter seriously into consideration. Let there be a delegate from each State to our national associations, and, by all means, pay his expenses. It seems to me that a State society that can not do it is not in a very flourishing condition financially. I believe some one in the meeting suggested (perhaps it was Mr. Newman) that, if the money could not be procured through the society, the individual members themselves chip in and send their delegate.

AMENDMENTS TO THE CONSTITUTION.

In some of our earlier sessions there was considerable discussion in regard to the constitution, and its need of revising on some points. Mr. Newman, upon consultation with a few of the officers, introduced several amendments, one of the most important being the change of the name of the association. It had been, heretofore, International American Bee-association; but it was objected, that "International" was too big. Heretofore the territory of Canada

and the United States only has been included. It was objected, also, that we are not an association of bees; therefore the old name, North American Bee-keepers' Association, was recommended and adopted.

FOUL BROOD.

Foul brood was the subject opened by a voluntary contribution by Allen Pringle, president of the Ontario Bee-keepers' Association. He detailed what Ontario bee-keepers had already done in securing the passage of a foul-brood act, and of an inspector, under the pay of the government, the details of which we have already given in our columns. He gave the method of cure which we recommend in the A B C book, and have from time to time given in these pages.

After the paper the convention discussed, pro and con, its cause. Some argued that it might start from chilled or decayed brood; but I think it was proven that the disease can not start from this source. It might be a favorable medium; but unless the germs were there in the first place, it could not propagate. Some thought it was *not* necessary to scald the hives; but your humble servant told them that he left 40 hives without scalding, and every one of the number, in six months, imparted the disease. There is no practical method of disinfecting, except by boiling every thing having been in contact with the disease, except, of course, the bees. They, if they consume the diseased honey in their sacs, will not again transmit the trouble.

FULL SHEETS OF COMB FOUNDATION VS. STARTERS IN THE BROOD-CHAMBER AND SURPLUS RECEPTACLES.

This was the subject of Eugene Secor's essay. He started out by saying that one swallow does not make a summer, and one experiment does not establish a theory, always. He did not pretend to know a great deal about the subject, but for several years he has used full sheets of foundation in the brood-chamber. The advantage was, that he had secured all worker combs; and the disadvantage was, that it increased the cost of every colony. Then he decided to let the bees build their own combs. Last summer he met a setback which he had not experienced before. The nectar was so scarce that the bees built scarcely any comb up to the opening of basswood. That came in such sudden abundance that some of his best colonies built almost entirely drone comb below. If he had foreseen this, and had provided them with full sheets of foundation, he was not sure but that the bees would have gnawed it full of holes, and filled it full of drone comb. With the present high price of foundation, and the price of bees, he was somewhat doubtful about the advisability of using more than a starter in the brood-chamber. With comb honey in sections he would use full sheets of the very thinnest and best foundation. In extracting supers he liked full sheets.

A lively discussion followed the reading of this paper. Dr. Miller was asked about wiring foundation, and he replied by saying, "I don't know." When we wire foundation, he said, we have it in the middle, and can handle frames more easily. When a vote was taken, it was shown that 28 used foundation, and 25 did not. They kept on arguing until it was suggested that we were off from the question. The question, "How many use full sheets in brood-frames?" showed that 30 voted yes, and that 20 used only starters, and only 3 none. A good many others did not know what they did want—that is, they had not settled whether they want to use full sheets, starters, or no foundation at all. As to the matter of building worker or drone comb

without foundation, Mr. Axtell said he uses special colonies. He takes out all the combs, and makes them build another entirely new set; and by selecting those with young queens he gets worker comb. If they build one or two combs they will build drone-cells. Mr. B. Taylor corroborated this.

FIXED DISTANCES.

Along about this stage of proceedings, "fixed distances" was discussed by your humble servant. As I have already given my ideas on this subject, I will not repeat them here; but I was surprised to see that there seemed to be in the convention a recognized need of fixed distances. Seventeen, by a show of hands, used fixed distances of some sort, either in part or in whole; 35 used hanging frames altogether.

THE QUESTION-BOX.

This was introduced about this time.

Can first-class honey be produced in sections without separators?

A good many answered yes.

What is the best method of preventing bees from sticking the upper stories of hives to the lower ones with propolis?

Use close and tight-fitting joints. A little piece of grease rubbed on the places of contact will help very materially to keep propolis off.

What shall we do with our swarms of bees when not wanted?

"Return them to the old stand," Dr. Miller said.

Is there any difference in color and quantity between honey extracted from light-colored combs and that extracted from dark?

Dr. Oren answered no. He had used combs 15 years old, and the honey harvested from them is as nice as that from new combs.

Is spring dwindling worse in the cellar than outdoors?

The general consensus of opinion seemed to be that it was. During severe winters, bees do better indoors, and in mild winters outdoors.

What is the objection to a house-apiary?

Mr. Hambaugh replied that he had used one, and abandoned it.

THE REQUISITES NECESSARY TO SECURE A HONEY CROP.

This was a paper by Prof. Cook, and in his absence it was read by Mr. Newman in his characteristic clear voice. After regretting his absence, Prof. Cook referred to the difficulty of handling such a theme, and that it was not of his own choosing, and mentioned the fact that Dr. Miller would say, "I don't know." This came in very "pat" right here, because, during the convention, the doctor's "I don't know" were a subject of banter. Getting down to the theme, Prof. Cook urged the necessity of successful wintering, and giving good protection to bees in the spring. His experiments during the past few years have proved conclusively that protection pays an exceedingly good profit. Chaff hives will do, but he prefers an outer case and excelsior packing. We must have prolific queens. He was not sure but it would pay to requeen an apiary every year, or at least every second year. Strong colonies when the season opens up, are another requisite. And then he came to the question, "Why do the flowers refuse to secrete nectar?" He would like to quote Dr. Miller's modest sentence—"I don't know." He said, that last year we had the rain and warmth, so the usual conditions were not lacking. The only explanation he could offer was, that, the year before being so terribly dry, the young plants were so blighted that they could not recover, so they were unable to perform their usual functions. He cited the fact that a young calf or colt partially starved never fully recovers.

At the close of the essay Dr. Miller said, that, whether Prof. Cook's theory were correct or not, the result would be the same. His outlook during the past season had been good—neither too wet nor too dry. Some one asked, "What was the cause of the failure?" Dr. Miller promptly responded, "I don't know." The doctor managed to bring in this modest sentence very adroitly a number of times, and each time laughter and general fun was the result. A good many stated that they had all the favorable conditions, and yet nectar was wanting during the past season.

ARE ITALIANS OR HYBRIDS PREFERABLE IN AN APIARY RUN FOR HONEY?

This was the topic of an essay by C. F. Muth. He gave good proof that Italians are superior. They are more handsome, they are gentle, and give as good results as any, in honey. According to his experience, the Italians give him the largest crops. And the pure stock are always best supplied with winter stores after the winter season.

As the time was limited, discussion was cut off, and we listened to the report of the General Manager of the Bee-keepers' Union. Mr. Newman showed, by nearly a score of instances, that the Union had always been triumphant. It had either won the suit, or had brought such influence to bear that the enemies of the bees dropped the matter without litigation. The most important thing of all, it seems to me, was that the *late* cases against bee-keepers have been killed by a recent decision of the Superior Court of Arkansas. The Bee-keepers' Union has nearly a score of *precedents*, and the valuable aid which *this* gives to the industry of bee-keeping in all future litigations can not be overestimated.

The following officers were elected for the ensuing year:

President, P. H. Elwood, Starkville, N. Y.; Vice-president, Eugene Secor, Forest City, Ia.; Secretary, C. P. Dadant, Hamilton, Ill.; Treasurer, E. R. Root, Medina, Ohio. The next place of meeting is to be at Albany.

In conclusion I can not refrain from saying that this meeting was one of the best, if not *the* best, in enthusiasm, good-natured banter, in attendance, in the *practical* character of the discussions, in the character of the *men* and *women* who went, and last, but not least, in the *business* done, and recommendations made, in the history of the association; and I hope this is only a side-show of the good times coming, when the association shall be incorporated under the laws of Illinois, and when the membership, instead of its present floating character, shall be permanent, with a long list of life-members, and annual members who keep up their dues, whether able to be present or not.

HEDDON'S HONEY.

WHAT MADE IT SELL SO FAST?

Mr. Root:—You remember the little advertisement I placed in your paper a short time ago, offering my this season's crop for sale. Well, sir, it is all gone; and as I suppose you do not charge any thing for back-action advertisements (I know we do not in our newspaper), I want you to let me say in this article that my crop this year, of about 20,000 lbs., is all gone, and I hope all my customers will see this and not put themselves and me to trouble and expense by ordering from me this season. If cards of thanks are in order, allow me to thank those who have patronized me, and, at the same time, perhaps I can do your readers and my brother

bee-keepers some good by telling them how I came to sell my crop so quickly.

First, I have learned how to (and do) take pains to produce and care for my extracted honey, after taking out, in such a manner that it is ripe and fully equal to any comb honey in flavor and consistency. At least, this is what I *aim* to do, believe I do do, and nearly all of my customers who have expressed themselves on the subject (and most of them have) say I do; and when they once sell this honey to their customers, they clamor for more; and nearly all other extracted honey found upon the market will not fill the bill, because it is not rich and smooth like thoroughly ripened honey. To be sure, it costs a little more to produce it this way, but not so very much either, when one knows just how to do it.

Another point is, that, notwithstanding the short crop and scarcity this season, I have *kept the prices down*. This has given me a broader sale, and consequently a better chance to introduce my goods, which I have found in all lines of business it pays to have of such quality that they advertise themselves. Just here let me say to all supply-dealers, no matter what line of goods, I believe the cheapest way to advertise and build up a trade is to furnish such goods as will give the best satisfaction clear to the end.

I believe I have touched upon some of these points in my former articles; but as new bee-keepers are coming into the field, and you are getting new subscribers among the old ones, if you desire I will furnish you an article on the subject soon, giving a full account of how I manipulate the bees and hives.

Dowagiac, Mich., Nov. 14. JAMES HEDDON.

EXPORTING QUEENS.

G. M. DOOLITTLE TELLS US WHAT HE HAS DONE.

A letter came to hand a few days ago, from New South Wales (so I take it from the print on the postage-stamps). The name of the sender is so poorly written, together with the post-office address, that I am not sure what it is; and as the writer says he is a reader of GLEANINGS, I will, with your permission, Mr. Editor, answer through the columns of GLEANINGS. Before doing so, however, I wish to say a word or two regarding this matter of writing addresses when sending letters. The *address* is the most important thing in any letter. No matter how important questions may be asked, or how many goods you may order, you can not obtain what you are after unless you fix it so that the one who is to accommodate you can make out where to send what you want, so it will reach you. If your address is not printed on your envelope or stationery, you should take *extra* pains to write your address plainly, even if it takes you longer to write that address than it does the body of the letter. One thing occurs to me just now: Write your address the first thing in beginning your letter. By so doing you will not forget it, as some are prone to do, and, what is of more importance, you will write it much plainer if written on the start than you will afterward. Many of the letters which I receive I can read very well for the first few sentences; but as the writer warms up, or gets tired, as the case may be, he pays less and less attention to his penmanship, and the last end winds up with little less than a scrawl, name and all. I will say no more on this subject, for fear I may get to scolding, except to say, that, when you get to a point where you have to answer many letters daily, if you ever do, you will look at things in a different light along this line than you do

where you write a letter only as often as once a week or once a month.

In the letter alluded to above, I find the following: "It has just come to my knowledge that you have successfully exported queens to Australia; and as I am anxious to obtain some of your stock, would you let me know if the information I received is correct?"

I am sorry to say that the information is not correct. Some five or six years ago, a party living in New Zealand wished me to send him some queens. I wrote him that it was very doubtful about my getting them there alive; but I said if he would stand half of the loss, if the queens failed to come alive, I would try the matter by way of experiment. To this he agreed. There is only one proper time to try this experiment from this State, and that is in October, this being as late as we can risk shipment here, on account of cold, and as early in the spring as they can well be received in Australia.

When the proper time arrived, I prepared the queen to be sent, to the best advantage as I considered it, and started her. She was just 37 days *en route*, and reached there alive, so that she "kicked around a little," according to the information I obtained from my friend, but soon died. As he wished to try again, we did so; but instead of the second going in 37 days, she was 72 days on the way, and, of course, died long before she arrived. In thinking of these long journeys in the mails, it must be taken into consideration that the life of the worker-bee, under the most favorable circumstances, is only about 45 days during the summer months; and when we come to place them under as unfavorable conditions as they are while confined to the narrow limits of a queen-cage, it is not surprising that they should not live out their allotted time. After the workers all die, the queen does not survive a great while, so that I consider it an impossibility to get a queen to New South Wales alive, with only the set of workers that are placed with her to start with, especially as the letter I am answering was 54 days on the way. If, after the queen had been on the way about 20 days, some practical apiarist could receive it, open the cage, and put a fresh escort in for the queen, seeing at the same time that the candy was fresh and in abundance, and after the next 20 days the same thing be done over again, I think there would be no doubt but some queens might be sent alive from here to Australia. During the last year I have received queens from Italy for parties in California by mail. I placed them in fresh cages, and gave them fresh bees, thereby getting them through in fine order, when only failure had been the result of former trials. I have also assisted parties from the West in getting queens over to Ireland in the same way.

THE NAMELESS BEE DISEASE.

After speaking some good words about an article of mine in GLEANINGS, and telling how one of their "great lights" in Australia agreed with me, the writer goes on to tell how, at a meeting "in this colony," called for "the advancing of the interests of bee culture, etc.," it was "asserted that the nameless, or shaking bee disease, is nothing but a species of intoxication, arising from the consumption of fermented pollen and honey by the bees," and asks, "What do you think about it?" He seems to think, that, if there was any truth in this assertion, the drones would have the disease as well as the workers. This would be so if the trouble were in the fermenting of honey; but if it was fermented pollen, then the drones would not have it, for, as far as my experience goes, mature drones never eat pollen nor have any thing to do with it. I should not like to express a positive opinion in the matter; but this one

thing I have noticed: That in all cases of the nameless disease which I have seen in my own neighborhood and elsewhere, it always disappears with cold weather, and does not again appear till warm weather comes to stay, whether the queen of a colony is removed or not. I also had one case where the removal of the queen did no good, as the disease kept right on till cold weather came, when it disappeared. This showing, only in warm or fermenting weather, would give a little coloring toward the fermentation theory. G. M. DOOLITTLE.

Borodino, N. Y., Nov. 15.

Friend D., I am very glad to know that you have done so much in this line. I came to the conclusion, long ago, that the limit of time that a queen might be out of the hive with a single escort is just about where you put it. In regard to the nameless bee disease, you may be right; but we have almost always, if not always, cured it by giving a new queen.

EIGHT VERSUS TEN FRAME HIVES.

IN FAVOR OF LARGE HIVES.

In Oct. 1 GLEANINGS you call upon the California bee-kings to give their experience with eight and ten frame hives. While I am not a bee-king (a drone) I have had much experience with the two sizes of hives, my apiary of nearly 400 stocks being about equally divided between them. I produce only extracted honey, and all my remarks relate to the production of that article.

Until the past two seasons I kept bees in a very poor locality, where a good honey-flow was unknown. There I thought the eight-frame hive was plenty large; but after experiencing a good honey-flow I concluded that the ten-frame was too small, and twelve would be about the right size. In California we do not storify and extract at the end of every season, *a la* Dadant, but extract every week or ten days. While eight frames give brood space enough for most queens, an eight-frame super will not hold as much honey as a strong stock can gather in a week during a good honey-flow; and, if extracted oftener than once a week, the honey is unripe and inferior. Two supers are too much room, and a nuisance besides. Some of my best stocks would fill every cell full in less than a week, and would of necessity be idle until extracted from. In these cases the ten-frame hive, having two combs more to fill, would have from 10 to 12 lbs. more honey. A twelve-frame super would have been about right for many of my hives. These large supers are objectionable, however, as, when first put on in the spring, and before being occupied by the bees, they make the hive almost too cool; and too use dummies or fillers with them is another nuisance.

I believe the old discarded Long-Idea hive is the proper thing for extracted honey in California. It is the best non-swarming hive extant. The most prolific queens can find a cell for every egg they can lay; and, when extracting begins, as many of the combs can be used for storing as are required. When building up in the spring, by the use of a division-board the hive can be so contracted as to meet the requirements of any stock, and the remainder of the combs are where they will be protected from moth, mice, and robber-bees, and right to hand, when wanted. The hive, however, will require a little more lumber than a two-story hive with the same number of frames, and I believe the heat in them will be greater. WM. G. HEWES.

Newhall, Cal., Nov. 6, 1890.

For extracted honey, and in your locality, you are doubtless right. Recognizing the needs of just such as you, we offer in our catalogue both the eight and ten frame hives — the latter at a slight additional cost. But the vast majority of apiarists and localities demand the eight-frame size; indeed, J. F. McIntyre, of your State, gives some pretty conclusive arguments for the smaller hive. See page 674.

THE CLARK SMOKER.

THE SMALL VERSUS THE LARGE TUBE: BEST FUEL.

We have used the Clark smoker for several years entirely. We like it on account of throwing the smoke with so much force. It has had two serious objections, however. It would drop creosote, and leak fire. You may say, "Clean your smoker." I did clean mine. In fact, I spent so much time cleaning that I am pretty sure Dr. Miller thought me very fussy, although he was too kind to say so. But still the black sticky stuff would drop over my clothing and on our nice white sections when we least expected it, and proved very annoying indeed. Especially was this true if the smoker was heated very hot. This year we have used the improved Clark with the large tube, and have not had one particle of trouble with creosote, and you don't know what a comfort it is, unless you have been bothered in the same way. The large tube needs very little cleaning; still, it is better to clean it occasionally. A stick pushed through the tube has been recommended as a means of cleaning it. Of course, the stick must be green, so that it will bend readily. We dislike it, as, in this way, all the dirt will be sent into the bellows. A heavy wire, curved about the same as the tube, the point flattened and bent, forming a little hook, makes a very good tool to clean it with.

Another improvement is a piece fastened on the smoker in such a way that the lid slides inside of it, making it very close and snug, so that no fire can leak out. There was one objection to this, however—there was not enough draft to keep it burning. To obviate this, Dr. Miller punched several small holes in the lid, not large enough to emit sparks, but sufficient to give air enough to keep it burning, and it worked like a charm. In using the Clark smoker without the improvements, I had a great deal of trouble about burning my clothes, often large holes being burned before I discovered it. This summer I have not burned a single dress, and only one apron, and that was the result of my own carelessness, as I had left the lid open. The feeling of security is worth a great deal. Mr. Root has my heartiest thanks for the improved smoker.

Another point in its favor is the increased durability. One with the large tube will, I think, outlast three of the others. We have used two throughout the season, and they are as good as ever, with the exception of the one Dr. Miller stepped on, which is slightly demoralized.

For fuel we use, mainly, turning-lathe shavings made from hard wood. Some time ago Mr. Root sent us two barrels of excelsior, which was very nice indeed. It does not last as long as the turning-lathe shavings, but is very good to light with, as it catches so quickly. The two mixed make a very good fuel. The very best thing to light a smoker with that we have ever tried is a small piece of saltpeter wood. On a very windy day the matches will go out almost

as soon as lighted; but if the least bit of a flame touches the wood it will burn, and not die out either. It certainly is a great saving of time and patience. We do not like to get along without it, and keep a small box of it at each out-apiary. Perhaps some one may like to know how to prepare the saltpeter wood. It is very easily done. Take $\frac{1}{4}$ lb. of saltpeter; put it in a jar with a gallon of water. After your saltpeter has dissolved, break your rotten wood in small pieces, and throw into the jar. Let them soak for a day or two, then take out and thoroughly dry, and it is ready for use. Try it, and see how you like it.

EMMA WILSON.

Marango, Ill., Nov., 1890.

Perhaps I should introduce our friend who writes the above valuable article as Dr. Miller's assistant, his sister-in-law. The saltpeter wood mentioned above was given in our journals a good while ago, but I am afraid only a few of our bee-keepers have been providing themselves with it. It certainly is a very great aid in starting a fire quickly. It seems to me, friend Emma, it is a little surprising that the smoker you speak of sustained injury because the doctor stepped on it; and, by the way, is that the way he is in the habit of tramping around over things when he gets in a hurry? Your suggestion of hard-wood turned shavings for fuel is also a good idea. I was intending to write this up after my visit at your place, but I fear I forgot it.

OUR QUESTION-BOX,

With Replies from our best Authorities on Bees.

QUESTION 173. *Taking a series of years, will a colony do better to have its brood-nest contracted at harvest time, or to remain without contraction the year round?*

I do not know.

Illinois. N. W. C.

MRS. L. HARRISON.

We never contract the brood-nest at any time.

Wisconsin. S. W.

E. FRANCE.

With the average bee-keeper, without contraction.

Ohio. N. W.

H. R. BOARDMAN.

Much depends upon the bee-keeper. Contraction, when wisely practiced, is best.

Michigan. C.

A. J. COOK.

We never contract the brood-nest at harvest time. It does not pay. We contract a little in the fall and in the spring.

Illinois. N. W.

DADANT & SON.

"Do better" at what? If for quantity of honey stored, contract, unless the "harvest time" is protracted.

Ohio. N. W.

A. B. MASON.

For extracted honey I would say, do not contract the brood-nest except, possibly, for 30 days in the last part of the main honey-flow.

California. S.

R. WILKIN.

I rarely contract the brood-nest, except in case of weak colonies in spring, and when hiving a new swarm.

New York. C.

G. M. DOOLITTLE.

We have practiced contraction for a good many years, and believe a little of it is a good thing. Too much is worse than none.
New York. C. P. H. ELWOOD.

I do not know. As a rule, I do not think there is much advantage in contraction, except for newly hived swarms. Then it pays.
Illinois. N. C. J. A. GREEN.

It would require more experiments than I have made to give my answer much value. My opinion and practice favors a small brood-chamber not contracted when surplus begins.
Ohio. N. W. E. E. HASTY.

If one wishes to secure all the white honey in sections, it can be more readily done by contracting. I would advise contracting as much as possible for winter.
Vermont. N. W. A. E. MANUM.

Taking a series of years, or one year, I am very firm in the belief that the contraction of the brood-chamber at the right time in the honey-harvest is the most profitable manipulation a comb-honey producer ever did.
Michigan. S. W. JAMES HEDDON.

Contraction of the brood-nest is good only in early spring, for the purpose of making the bees breed up. It is advisable at no other time of the year, excepting, perhaps, for safe wintering, if the colony is weak in the fall.
Ohio. S. W. C. F. MUTH.

I don't know. For a single year more honey can be thrown into a super (theoretically at least) by contracting; but when you say "a series of years," that may alter the case. My observations of late years have made me less sure that contraction has any value.
Illinois. N. C. C. MILLER.

In running for extracted honey I leave the brood-nest the same size the year round; for as long as there is any prospect of honey to be gathered, I want plenty of bees to gather it; and when the honey fails, the bees will do their own contracting as far as brood-rearing.
Wisconsin. S. W. S. I. FREEBORN.

At present we are opposed to contraction. It induces swarming. When running for comb honey it leaves the brood-chamber bare of honey for winter stores. In our out-apiary run for extracted honey, contraction caused swarming in nearly every instance, while hives left with no restriction to the queen did not swarm. We do not believe in close contraction.
New York. E. RAMBLER.

The above reports seem to indicate pretty clearly that contracting about or just before the harvest time is not so much practiced now as it used to be when most of the readers of GLEANINGS had only a few colonies, and could look at every colony night and morning, to see when it needed more room. Our friend Dean, formerly of River Styx, near here, used to be one of the champions in this line; and for building up colonies it certainly worked wonders so far as crowding the bees and the honey into surplus-receptacles was concerned. The recent demand for eight-frame instead of ten-frame hives seems to be in line with the idea.

HEADS OF GRAIN FROM DIFFERENT FIELDS.

N. A. B. K. A.: HOW TO PROVIDE FOR PERMANENT FUNDS: A GOOD SUGGESTION.

Friend Root:—As you said at the Keokuk meeting, that you would undertake to get twenty or thirty life-members to the association, and as we must try to manage to save a certain capital for the association, I suggest that we make it a point to have the funds thus gathered invested in some safe interest-bearing investment, the interest only to be used by the association. In this way we can perpetuate the good work and create an interest. I would even go further: for, as the yearly subscribers are usually sufficiently numerous to pay annual expenses, it seems to me we ought to set aside also the affiliation fees of the State, Territorial, and local associations. In a few years we should have a capital large enough to enable us to offer prizes and premiums for competition, and we should raise an interest much greater than formerly in our meetings. Would you be so kind as to take the matter in hand, and discuss it in GLEANINGS? We must do something to get out of the old rut.
Hamilton, Ill., Nov. 7. C. P. DADANT.

All right, Secretary Dadant. We will back you in all your suggestions as far as we can. Now, then, who among the readers of GLEANINGS is willing to pay up and stand by us in the effort to make the North American Bee-keepers' Association a permanent institution? It will cost you \$10.00, it is true; but after that you can attend the convention for forty years, if you live so long, and not pay any thing. I have in mind quite a few of our readers who, I think, might, could, and should stand up. Let us hear from you. Who will be first? So far as I know, the editor of the *American Bee Journal*, and Ernest and myself, are at present the only life-members. Who will stand with us?

TO THOSE CONTEMPLATING GOING TO THE ALFALFA FIELDS.

Friend Root:—There is some inquiry in GLEANINGS about whether it would be profitable to move bees to the alfalfa fields of the Southwest. I would not advise it on that source alone. I had two years of experience in Utah, in the Great Salt Lake Valley. I had at one time 44 colonies, and I do not think I ever got any honey from the hay-fields, although there were hundreds of acres near. Where it is raised for hay it is cut as soon as it gets in full bloom, and before it secretes any honey. Where it is raised extensively for seed it is different, and one may usually depend on a fair yield. It is of excellent flavor, but a little inferior to sweet clover. Sweet clover grows promiscuously all over the Salt Lake Valley, wherever there is moisture enough for it to get a start, and I think that is what makes Utah honey the finest flavored in the world.
A. MCCAY.

Olympia, Wash., Nov. 15.

WILL FREEZING HURT FOUNDATION?

Where foundation is kept dry, will freezing, light, or air, injure it in any way for use next year?
JAS. A. ADAMS.

Grimm City, Mo., Nov. 10.

Friend A., the freezing will do no harm at all, providing some inconsiderate person does not

attempt to handle it while it is cold. I do not know of any thing that vexes me much more than to see people who have had experience enough to know better, undertake to move a lot of foundation when it is almost icy cold. Of course, it flies to pieces like thin glass; and then after they have done a lot of mischief they sometimes undertake to repair it, and in so doing they break a lot more of it. Never touch foundation, nor even hardly look at it, when it is in a cold room. Air and light have the effect of bleaching and hardening thin foundation; and as this makes it a little more difficult for the bees to work, it is generally considered better to have your foundation shut up in a box, protected from air and light as much as possible during the winter time.

BOTTOM VENTILATION, AND THE TOP SEALED TIGHT.

Some five years ago I commenced to experiment along this line. The family carriage having received a new top, I utilized the old leather by using it instead of burlap to cover the brood-nest, cutting it to fit on all sides neatly, using this on four colonies, two strong and two weak, using burlap on all others. The leather was laid flat on the frames. They all came through without loss; but those with leather for covering built up much earlier in the spring, and were ready for sections in advance of those covered with porous material. These results being nearly uniform for four seasons, I am this fall using either leather, rubber cloth, or oil cloth double, first laying three half-inch strips reaching across four frames, then this covering pressed down neatly; over this, six to eight sheets of newspaper, then the chaff cushions. This is my plan, with the entire apiary of 25 stands. I leave the entire entrance open (Simplicity entrance), and shall expect good results.

Guys, Md., Nov. 13. WM. S. ADAMS.

Friend A., your leather is, to a certain extent, porous. I know by experience that it is not to be compared with rubber. My feet rebel at once against any kind of rubber casing; but I can wear dry leather boots very well, unless the weather is quite hot. In hot weather they (my feet) insist on cloth shoes, and will not be quieted with any thing else. I should think that leather would be a splendid cover for bees, if it can be had at reasonable prices.

ONE OF THE CACTI.

I send you a flower by mail. It seems to be a honey-plant as well as a beautiful one. The honey was running out of it when I got it. They tell me that every flower had drops of nectar. Will you please name it, and tell where its native place is? J. M. KINZIE.

Rochester, Mich., Nov. 10.

Prof. Cook replies as follows:

The flower above is one of the cacti. It is a large, brilliantly colored, bright scarlet blossom, and forms a strange contrast with the leafless stem that bears it. These plants come from the arid, sandy regions of Arizona, Southern California, and Mexico. I am glad that they are honey-plants. It is reported that our "jack-pine plains" of Northern Michigan are localities where bees do exceedingly well. It is more than possible that the strange cactus regions of Arizona may be worthy a similar repu-

tation. Who will inform us in the matter? It is worthy of remark, that the wonderfully beautiful "night-blooming cereus" is also a cactus. Its blossom is large, white, and exceedingly beautiful.

A. J. COOK.
Agricultural College, Mich., Nov. 15.

KEROSENE TO KEEP BEES AWAY FROM WATERING-TROUGHS.

I use a kerosene-barrel for watering stock, and am not troubled with bees. I provide a suitable place for the bees to drink, and pump fresh water in their trough every morning. The secret of it is, bees dislike kerosene oil nearly as bad as our editor dislikes tobacco.

Eau Claire, Wis., Oct. 25. C. B. JACKSON.

Thank you, friend J., for the compliment. If you have a kerosene-barrel, of course you have the smell of kerosene always around your watering-trough. The idea is a good one. It now occurs to me that we used half a kerosene-barrel for many years for watering our cow, and I have never seen a bee near it.

WHEN TO MOVE BEES A SHORT DISTANCE: LICE ON IMPORTED-BEES.

I have 16 chaff hives in the garden, around the fence. I should like to move them about 125 feet, where the rest of the apiary is. Can it be done without any loss of bees? If so, when and how?

My friend C. received from Italy a short time ago a queen and attending bees that had red lice on them, or something that looked like a wood-tick. The lice were sticking on their shoulders and under their wings. The abdomen of the tick was short and round, and a brownish red color. What are they, and are they injurious to the bees? JESSE MCNEELY.

Putan, Pa., Nov. 8.

When the weather turns cold, move the bees where you want them. After bees have been confined a few weeks they will readily return to their new location. The lice you speak of are often found on imported Italians, particularly on the queens. In fact, we rarely have an importation without seeing some of them. They are called the Italian bee-louse. They do no real harm, although we always remove them from the queens.

LONG FLIGHT OF BEES: IS IT TRUE?

This strip of paper states that bees fly 14 miles. Do you think it is so? F. TOMPKINS.

Lawsville Center, Pa., Nov. 10.

The following is the clipping referred to:

INSTINCT OF BEES AND ANTS.

How insects, especially bees and ants, find their way back home is one of the marvels of natural history, says a farmer in the St. Louis *Globe-Democrat*. My wife keeps bees, and my little boy has a taste for entomology, and is always making experiments of one kind or another with them or other insects. He has been trying to find out how far away a bee can be taken and not get lost, but has not yet succeeded. I live in the country, fourteen miles from the courthouse, and during the summer that boy has been in town with me a dozen times, and on each occasion he brought some bees along in a little tin box. He colored their wings with violet ink, so that he would know the insects again, and let them go in the heart of the city. The first time he did it he released six bees at the Biddle Street market, and I believe they got home before we did, because they were all on hand attending to business the next morning, just as though they took a fourteen-mile journey every day. Occasionally a bee fails to come back, but in nearly every instance they return in a few hours. Once

he let five, whose wings had been colored red, out of their box at six o'clock in the morning, on the corner of Fourth and Biddle Streets, while his little sister watched the hives at home. One, arrived, tired almost to death, and dropped at the door of the hive a little before two o'clock, and three more came before five o'clock in the evening, all apparently much fatigued. His experiments with a nest of large black ants have been equally satisfactory, for some marked ants have found their way home, after being released, more than a mile distant from the hollow tree in which they lived. How they do it is a question, but they generally do, and so it is likely the travels of both ants and bees are much wider than is generally supposed.

Friend T., I feel quite sure that the above extract is not true. It seems to me strange that our newspapers will get hold of such false statements, when careful facts from careful observers are scattered all through our bee-journals. Perhaps it might be well to hunt up that boy and see whether any such experiments were ever really made. The most reliable experiments that we ever made in this line, I believe, were made by our friend H. A. March, of Fidalgo, Washington.

WHAT KIND OF BEES ARE THEY?

They are very yellow below their shoulders, but their head and shoulders are black, not quite as large as Italians, and splendid robbers.

Ernest's notes are very interesting, also many other things in GLEANINGS. Almost every number brings items worth many times the subscription price.

A. P. FLETCHER.

Proctorsville, Vt., Nov. 8, 1890.

It is hard to tell, from your description, what the bees are. The fact that those mentioned have very black shoulders (thorax) leads us to believe that they are old Italian bees that are tired of honest toil, such bees having learned that stealing sweets is faster and apparently more profitable. These wear the fuzz off their shoulders in crawling through holes and narrow crevices to steal. Young Italians are not given to robbing, and it is only the old bees that have learned the trick, usually.

AN APIARY OF BLACKS AND ITALIANS; THE LATTER SECURED 30 LBS. PER COLONY, AND THE FORMER NONE.

I see a great deal said about the Italians. They are the best with me. I have 38 colonies; 18 of them are black, or nearly so. I did not get a single pound of surplus from the blacks; but from the 20 Italians I took 600 lbs., or 30 lbs. per colony, of nice honey, and left them in as good or better condition than the blacks. I am going to put Italian queens in all of them next spring. The past season was very bad for honey, so we sold all of ours as fast as we took it out. I have bought 480 lbs., and I shall have to buy more if I keep it for my customers.

J. F. TEEL.

Elmont, Texas, Nov. 8.

A DEMAND IN CALIFORNIA FOR PERFORATED ZINC AND A REVERSIBLE HONEY-EXTRACTOR.

There will probably be a demand for queen-excluders in California until all apiaries are supplied, and a good strong reversible honey-extractor should sell well. I have seen extractors in this county that cost \$50.00 each, and were not well made either. I shall be pleased to receive a sample of your new perforated zinc.

Fillmore, Cal., Oct. 27. J. F. MCINTYRE.

BEES AND NEIGHBORS.

I am a poor man, and have a lot of 3½ acres, and am crippled at that. I had my right foot amputated about a year ago. I am in debt quite a bit. I once thought I couldn't get through. Alas! a kind friend lent me money and took a mortgage of \$480, and gave me good time; and if I can only keep up the interest, all well. This is a great help for me. If I can only live and support my family, which are three besides myself, and pay my interest, I am well satisfied. I then took a notion to go into the bee business, so I got 23 good colonies, and I should like to have about 100 in all, then I could get along well. I can't work by the day. Hands are plentiful without a cripple, to work by the day. Now, the question is this: Can a neighbor do any damage to me by the law for keeping so many bees? My bee-yard is about 10 rods from his dwelling. He says they will hurt the grapes. Now, what shall I do? I surely can't keep them away. Our nearest town is Middlebury. We live three miles from it, but there are three lots here close together. The other is owned by an old widow woman. She won't say any thing. How far away should my bee-yard be from the highway? It is at present about six rods from the public highway. My bee-yard joins his lot.

EDWARD GEGAR.

Middlebury, Ind., Nov. 10.

If it were not for the general prejudice of ignorant people, your bees would do well enough where they are. On the whole, we would move them to the back yard; or, at least, a hundred feet from the street. Bees will not injure sound grapes; but they will attack those injured by birds or insects. Still, even this amounts to but very little. We have for years kept bees, and had grapes growing in the same yard, and we have little or no trouble. If you explain the matter kindly to your neighbor, occasionally presenting him with a nice section or jar of honey, he will let the matter pass. In view of your misfortune he ought to be a little lenient, any way. If he should be ugly, you can have the aid of the Bee-Keepers' Union, providing you are a member. Thos. G. Newman, of 246 East Madison St., Chicago, is the General Manager.

HAS BEE CULTURE BEEN INJURED BY THE USE OF PARIS GREEN, ETC.

I returned from Michigan a few days since, after a good visit with my people, and particularly with my brother, who keeps bees. He was very enthusiastic on the subject of bees—in fact, so enthusiastic that I brought a five-frame swarm all the way in my hands. I have a cotton plantation, and believe I could buy a few bees, and, with proper study, I could make it profitable. I had previously heard of marvelous yields of honey in this locality, but I was not personally acquainted with any of the beekeepers. I find, upon partial investigation, that this has been a favored location, but that all have become discouraged, and are anxious to sell out. They say that, since the use of Paris green for killing cotton-worms has become general, their bees are killed, and all chances of profit destroyed. Have you, in any number of GLEANINGS, or elsewhere, any thing to throw light on the subject? I do not want to give up the bee enterprise if there is any way to get around the poison question.

W. H. BRISTOL.

Shreveport, La., Nov. 7.

Friend B., I do not think the bees have suf-

ferred very much from the cause you mention. There was some apprehension about Paris green when it was first used; but, so far as we have been able to learn, lack of attention has very much more to do with it than any injury resulting from poisons used to kill insect enemies. Of course, we don't know how it may be in your neighborhood; but if you look into the matter carefully, we think it will be as we state.

HOW TO MAKE A WATERING-PLACE FOR BEES.

I use a ten-gallon keg: bore a hole near the bottom, put in a faucet, then take a soft pine board about 2 ft. long, and with a hatchet I hack it all over on one side to make it as rough as possible. Set the keg on a block (a box will do) about 18 inches high. Now place one end of the board just beneath the faucet, and the other end in a very small trough. Fill up the keg: cover it well, so that no bees may fall in; turn the faucet so that it will drip just to suit. With this arrangement near they do not trouble me much in the watering-trough, except on a very hot day, when a little coal oil rubbed in the trough just above the water will keep them away. They will not go into a trough that is painted with coal tar inside.

Our honey season is over, with an average of about 30 lbs. per colony. Bees did fairly well, considering the dry season. ED. E. SMITH.
Carpenter, Ill., Nov. 7.

Thank you, friend S., for your excellent suggestion in regard to a watering-place.

AN OUTSIDE CASE FOR WINTERING.

I see several inquiries in reference to outside winter cases for the Simplicity and Dovetailed hives. For this winter I have packed all my single-walled hives by making a case, out of rough inch hemlock lumber, the top of which is first covered with boards from old glass-boxes; then a covering of heavy manilla paper, well tacked, and coated with two or three coats of good thick paint. The case is made large enough to allow putting old newspapers or heavy paper over the hive when it is dropped down over. As the hives are 10 inches deep, I made a cover of ten-inch stuff. This made a good winter double-walled hive, and I think it will be as good to winter in as chaff hives. I have packed 30 colonies so this fall, and will report success. For the first time in years I had to feed ten or twelve colonies; but with a modified Miller feeder it was little trouble, as I could feed from 10 to 15 lbs. in 24 hours.

T. G. ASHMEAD.

Williamson, N. Y., Nov. 10, 1890.

BEE-STINGS FOR RHEUMATISM: A PHYSICIAN'S STATEMENT BEFORE THE FRENCH ENTOMOLOGICAL SOCIETY.

Dr. AL. Laboutbene, at the meeting of the French Entomological Society, held on March 13, 1889, gave a short abstract of a paper published in 1888 by an Austrian physician, Dr. Tere, who seems to have made extended experiments for a number of years. Dr. Tere asserts that a person stung by bees acquires thereby a relative immunity from the consequences of subsequent stings; in other words, that the virus of the bee-sting acts like a vaccinal inoculation against its own poison. The immunity lasts about six months, sometimes less, probably according to the number of stings inflicted on a person. Persons suffering from acute rheumatism require a larger number of bee-stings to feel the usual effect of the poison; but as soon as, by inoculation of a sufficient amount

of virus, they have acquired immunity against its effect, they will be free from rheumatic attacks as long as this immunity lasts.

A. J. BLANKINSHIP.

Eldorado, Ills., Nov. 16.

TWO DIVISION-BOARDS.

I notice what Mr. H. L. Jeffrey (pp. 771, 772) has to say regarding two division-boards. I deem the subject of very great importance to us bee-keepers. I have used two division-boards and paper packing, for many years, with the very best results. For beginners, your advice in the A B C, if I remember well, must be followed. Get your bees in good trim for winter in time—in this part of the country, say the middle of October. The bees need time to fix up for winter. Gluing, patching, etc., must be done; and for all this, give your bees plenty of time in fall. The less you handle your bees in fall, the better for them.

The Dovetailed hive, with closed-end frames, is just the very thing many of us looked for.

HOW BEES MAY BE INDUCED TO WORK IN SECTIONS.

During a good honey-flow, remove the queen from one of your best colonies. Also remove or destroy all queen-cells. In a day or two, give to this queenless colony a hive with nothing but section frames, save one, which will be a brood-frame with queen-cells just started. The other brood-frames from the parent hive may be given to any populous colony for a few days. Then with the hatched young bees, strengthen the queenless colony as much as possible; and before a young queen appears, sections are filled.

I must thank you once more for the fine select tested queen you kindly furnished me last July. If one man owns a \$100 queen in our country, I say fifty dollars can not buy my Aurea—thus I named her, on account of all rare qualities combined and possessed by her.

REV. P. STEPHEN STENGER.

St. Meinrad, Ind., Nov. 10.

THICK TOP-FRAMES A SUCCESS.

Last fall I had 32 stands of bees in the thin L. frames; and wishing to have the best for preventing brace-combs I studied all that was said in GLEANINGS respecting them, and came to the conclusion I would make my frame top-bars 1 inch wide and $\frac{1}{2}$ deep. So I made 45 hives, dovetail pattern all but the dovetail, and slatted honey-boards, and made them enough deeper to suit the heavy frames. As it was a poor season I did not need many surplus cases on; but what I put on, on the new heavy frames, did not have any brace-combs above the frames; but where they were spaced a little wide there were some odd bits of comb from one to the other, but none above the top corner of the frames. Then, again, where some were spaced rather closer there were no braces anywhere. Again, by changing hives and swarming artificially two or three, and raising a few queens from my best stocks, I managed to get the thick and thin top-bars in the same hives. One in particular was like this: Two of the heavy thick frames, then one metal-cornered frame; then two more thick ones, then another metal-cornered one; and, last, two more of the heavy frames, and now there is not a particle of brace-comb on the thick top-bars, except where they come next to the metal-cornered ones, and then the thick ones are braced fast to the metal-cornered ones, and are also built right up and fast to the slatted honey-board. You see those were the only places where brace-combs were built right from the two metal-cornered ones.

JOHN HAMMOND.

Buena Vista, O., Oct. 24, 1890.

MYSELF AND MY NEIGHBORS.

Then one of the twelve, called Judas Iscariot, went unto the chief priests, and said unto them, What will ye give me, and I will deliver him unto you? And they covenanted with him for thirty pieces of silver. And from that time he sought opportunity to betray him. —MATT. 26: 14-16.

Judas betrayed his master, Christ Jesus, the Son of God, for thirty pieces of silver. Was he crazy, or was he a fool? One can hardly believe that pure rascality or depravity, or selfish greed, should ever prompt any human being to such an awful piece of hypocrisy and treachery, especially for such an insignificant sum of money. How *could* Judas have ever been in such a strait or in such need of a little money as to go into such an *awful* speculation as the one narrated above? Mankind has for all ages stood aghast at the fearful inconsistency and folly of this shameful deed, especially when he by a *kiss* indicated to his enemies which was the Master. We are tempted to say that he could not have been in his right mind. The poor fellow must have been a monomaniac; and yet we read nothing of the sort in the Scriptures. God's holy book simply gives it as an illustration of sin in the human heart, and Judas is held up before us as a warning. In one sense, Judas *was* crazy; but isn't any man crazy in the same way, who barter his good name and his chance of future happiness for a few paltry pieces of silver? Cherished sin makes *anybody* crazy. He loses his ordinary good sense, and he becomes incapable of exercising ordinary judgment.

A great many excuses have been made for Judas, such as, that his faith in his Master was so great that he believed he would deliver himself by some wonderful miracle, and the result would only be for the general good. A good many people, since the time of Judas, have decided to do evil, and have excused themselves by saying that they *thought* good would surely be the outcome of it.

Well, what have bee-keepers and honey-dealers to do with Judas and his thirty pieces of silver? It has occurred to me this morning that many of us have something to do with Judas' inconsistency. We see a chance to get some money, and we push ahead to get it in our hands, with a foolish, shortsighted disregard of consequences. We barter our good name for a few pieces of *silver*. I do not know but I had better put it stronger than to say *we*, and come right down to the point, and say that sometimes it looks very much as if *A. I. Root* had been tempted to barter his good name for a few pieces of money. I want to make a plea for mercy, though, right here. Dear friends, you do not know what an awful busy life mine is. I am *too busy* to do *justly*, but God knows I do love "mercy;" and I am sure I try, about as well as a busy man can try, to "walk humbly before God."

You may, perhaps, say that I have no *business* in having so much "*business*." Well, that is true; and that is the worst thing I am guilty of. And I do not know but it is a pretty bad sign to have so much business that you can not see that it is all attended to as *honestly* as it should be. I will tell you how it is. I have been working very hard during the past fall. For some weeks I have not had any fun in the garden, hardly, because there are so many things to be looked after, and arranged and decided on. I have not even had the fun of studying over greenhouses—the new kind, you know, that is to be a *garden* when it rains and the sun is warm, and to be a *greenhouse* whenever every thing is frozen up solid. It is true, I have been

dreaming of this new greenhouse nights, after going to bed, and at other times when I do not "have to" do something. Yes, I say to my shame, that my truant mind sometimes gets away on Sundays, even during sermons, and plans this new greenhouse, instead of listening to our good pastor. I have felt bad about it, and prayed over it; but the plans would keep working themselves out. And now during this fine weather in November I have been trying to get time to instruct workmen how to build it *after* the plans have been so long working and evolving in my busy brain. As a consequence, things have been somewhat neglected. Some days I feel as if I had no business in thinking about greenhouses at all—that I had better let well enough alone, and "stick to my knitting"—the journal, factory, etc. Why, I told Mrs. Root, only last summer, that, if my *present* frame of mind did not change, I would give up gardening. I fear it changed in about two or three hours. Overwork in the office pulled me back to my old nervous prostration, and then it began to be a question, "Should I enjoy myself out in the open air, with growing plants, and *live*, or stay in the office and defend my good name before the children of men, and *die*?" None of you need be worried, dear friends. I am going to live, and enjoy God's gifts outdoors, just as long as I can. If I can not do any better, when somebody says he has been wronged I will ask him how much money it will take to make it right, and fix it that way, without going into details. Some of the friends have, however, "got awful mad" because I suggested such a way of defending my good name. Two or three have declared that *money* would not do it, and I am afraid they are pretty nearly right, after all. Let me give you a sample of some of the burdens that oppress me just now. Please read the following letter:

*A. I. Root—Dear Friend:—*While it is an unpleasant task, yet I feel it my duty to write to you. This fall I bought of you alfalfa and mesquite honey to the amount of *one hundred and twenty-four dollars* and some cents' worth. I asked you to do the best you could in the way of rates. After waiting a long time after I got the bill, the honey came, with, I think, \$8.00 freight on it. It had been billed at local rates all the way, making three different billings. I wrote you about it, and got an answer which seemed to me quite short and indifferent. In this letter you say you had asked for rates; and as soon as you got them you would make it right with me, or words to that effect; but I have never heard from it yet. I afterward sent you an order for more honey, which came to *hand* all right, but it is awful stuff to call honey. It is about as dark as a low grade of New Orleans molasses—nothing whatever like the sample sent me. I sold some of it, and had some of it refused and returned. I will inclose some of the answers I got from the parties whom I sold it to. These letters are from neighboring towns where I sold it, where I had sold my own honey; the rest of it I sold in our own town; and I never did any thing in my life that has been so unsatisfactory. I would not for *one hundred dollars* have my reputation injured as this honey has done.

While I do not want to accuse you of willfully selling honey of this kind after praising it up as you have done through GLEANINGS, yet I think some one is grossly at fault for selling such honey and branding it first class. I do not ask you to take my word for it. If you doubt my word, I will send you a sample of it, and you can then see for yourself.

Very resp'y, G. B. SHELTON.

Brownsville, Pa., Nov. 21.

P. S.—After reading Our Homes these many years, and longing for them to come, and feeling that I know you personally, I do not think that you would allow this thing to go on if you knew it. G. B. S.

Below are the letters our good friend Shelton refers to, omitting addresses, for obvious reasons.

MR. G. B. SHELTON:—I return above, being very dark and unsalable. I could use good honey like last year's, but not this kind. J. K. B.

MR. G. B. SHELTON:—Your honey at hand, and we find by proper test that it is not satisfactory in regard to flavor, and will ask if you want it returned, as we can not use it.
Uniontown, Pa., Oct. 10, 1891.

M. & B.

MR. GEORGE B. SHELTON:—The honey arrived safely, and I would have replied earlier, but have been away a day or two, and been quite busy also. I am sorry to say that I do not like the honey as well as what I have formerly had from you, nor do my friends like it. It seems to have a taste and smell like tobacco—that is the only thing that I can liken it to. What is the matter with it?
E. A. J.
Charleroi, Pa. Oct. 15, 1891.

□ Friend S., I want to thank you, to commence with, for your concluding postscript. Even if you have been misused, and have suffered, it indicates that you feel *neighborly*; and my experience indicates very strongly, that, if a man wants to be treated in a *neighborly* way, he must *commence* in a neighborly way. While we do not agree to be responsible for mistakes that railroads make, we certainly do not mean to be indifferent to the interests of our customers. As we understand it, your honey passed over three different railroads. This, of course, would add much to its charge. While every shipper should be prepared to do his best in deciding upon the cheapest route by which to send goods, as a general thing the one who orders the goods can tell better the best route to have them shipped. As a rule our customers do indicate the route. Sometimes they tell us if we think we can make a better route, to do so; but it requires a man of large geographical knowledge and experience, and one who keeps constantly posted in regard to the railroad lines, to be able to help in this matter intelligently. We are already provided with guides and books, and every thing else that can help us in this matter of transportation, and we are still working hard for better facilities and more knowledge. I have often remonstrated with the clerks because of the brevity of their letters, and a seeming lack of interest in the needs of our customers. But they often tell me, that, to write at length, as I do, would take so much time that it is entirely out of the question; and as evidence of the truthfulness of their standpoint they might point to great heaps of letters on my desk, to be answered if I ever get time to do it. I do wish, from the bottom of my heart, that it were possible for me to look up every tangle in business, and answer it at length; but I fear, dear friends, you will have to accept the will for the deed for a good part of it. Now comes the real trouble. Our friend probably asked for a sample of the Arizona honey, and we sent, as we supposed, honest samples. In that carload from Arizona there were something like 500 sixty-pound cans of honey, nailed up two in a box. The association that shipped the honey received it from ten or twelve different individuals. These individuals graded it themselves, and marked the grade and quality on the outside of the boxes. When we first received it we opened quite a large number of cans, and the grading seemed to be so honest and square that we accepted the labels on the outside, without going to the tremendous task of opening every one of these 250 boxes and sampling the honey. It turned out afterward, however, that we should have saved a deal of trouble by doing just that very thing. Somebody among the ten or twelve shippers was either lacking in conscience, or else was so heedless that his offense was about as bad. This is nothing very strange. You can hardly go into any community and find ten or a dozen bee-keepers, or even farmers, who would not, if they had a chance, work off a poor grade of their product so as to get a high-grade price for it. In fact, almost *all* of us have done more or less of this kind of work until we learned by experience that it would not do. Oh that I could impress upon the minds of the readers of GLEANINGS the fact that honesty *is* the best

policy! We need men now in this present age—and, oh there is such a *sad* need of them!—who will put up any thing for market in such a way that a commission man or the purchaser who gets them will know from the *character of the man* that there is no need of breaking open packages to see if they are honest throughout. Friend Terry has built up his reputation, not only on potatoes, but also on strawberries, by this kind of honesty; and he has been exhorting the whole nation, through his writings, and through his institute work, to do just this very thing. Dear friends, just think of it! Friend Shelton says he would not have had his reputation injured as it has been, for a *hundred dollars*, and no doubt he is pretty nearly right about it. This damage must be made good by some one—that is, some satisfactory arrangement must be made with these customers. If the man who shipped poor-grade honey will not do it, it falls upon *us*. It is like the story I told a few weeks ago, about writing Breckenridge County for Bracken County, only that was an innocent blunder, perhaps, and this is the consequence—at least it would seem so—of a *deliberate* attempt to defraud.

We are now coming to something that cuts close. Friend S., we want you to tell us what initials were on those boxes of bad honey. And, by the way, I think the time is coming when every package of honey must have the address on it of the producer, and the producer must stand responsible for the truthfulness of the label outside. To do this is going to make a good deal of trouble in raking up these transactions; and especially getting them into print is going to hurt somebody's feelings terribly, perhaps. But it is the only true and sure foundation upon which to build up a great trade in our industry. This great trade has already got a good start, and people are getting to have confidence; and we as bee-keepers must *fight* for this confidence, and must fight for our integrity, as we would fight for the American flag.* It is the only solid rock on which any industry can be built up. The butter and cheese business have had to go through just this kind of work, and they are going through it now, and it is the same way with those who produce and handle eggs. There is no way but the honest way. The patriarch Job say:

"As God liveth, who hath taken away my judgment; and the Almighty who hath vexed my soul: all the while my breath is in me, and the spirit of God is in my nostrils, *my lips shall not speak wickedness, nor my tongue utter deceit.*"—(JOB 27:2—4.)

The italics in the above text are my own; and the only course for us is to rise up in our strength and in our might, and say with good old Job, "My lips shall not speak wickedness, nor my tongue utter deceit," not even though bags of money that we sadly need are held out as a bribe for just a little bit of deception.

□ We will try to give the outcome of our settlement with friend S., in a later number.

Now, dear friends, it is not the extracted-honey men who are guilty. The same kind of work comes up more or less in crating comb honey. Very likely it is carelessness, or setting somebody to work to help pack the honey who does not know any better than to put nice clean white sections on the *outside*, and the dark ones *inside*. Here are some letters below that tell you how it works in our great cities:

*A verse of my favorite hymn occurs to me here:

Are there no foes for me to face!
Must I not stem the flood!
Is this vile world a friend to grace,
To help me on to God?

The first one was received with check for honey sold on commission.

Mr. Root:—We hand you herewith check covering sales of your last shipment of honey to us. We had bad luck with part of it. We made shipment to the country of a lot, and it was refused on account of being black. We ordered it returned. In the trip it was badly broken up, and we sustained heavy loss on it from leakage and waste. This last end was what kept us waiting so long. We are now in good shape to handle another shipment for you. One-pound sections are the kind that sell best.

REYNOLDS & WILLIAMS.

Cleveland, O., Nov. 19, 1890.

The above lot of honey was a part of the carload received from friend Ball. As it looked very nice when taken from the car, and seemed to be in excellent order, therefore we were greatly astonished, and wrote immediately to know what the commission men meant by calling it "black." I confess that we were somewhat *stirred up* about it, as a great part of the carload had already been sold at good prices, and no complaints. The letter below explains:

Mr. Root:—We are very sorry to have you feel as your letter indicates in regard to the honey receipts and report of sales. The writer saw the honey that was returned, and it was black on the inside sections while the outer ones were clear and white. We had several shipments returned which delayed remittance, and the causes for returning to us were just as the honey was as we have stated.

Cleveland, O., Nov. 21. REYNOLDS & WILLIAMS.

There you have it, friends. From what I know of friend Ball I can not believe that he *himself* put up his honey, or knew that it was put up with unsightly sections *inside* and the nice white ones *outside*; and I confess that I was quite loth to believe that he had intrusted anybody with packing it for him that would do such a thing. In all great markets it is well known that the man who packs his produce so as to make it show well on the outside, while inside it is poor and unsightly, it sure to get a wide berth on any future shipments. It *kills* any man's reputation. You remember what Jesus said about the scribes and Pharisees:

"Ye make clean the outside of the cup and of the platter, but within they are full of extortion and excess."

In fact, I had looked at the honey, and had seen several cases opened, and had taken great comfort in thinking that we had a *whole carload* that was just as good *clear through* as it was outside. But I at once hastened to our men who put the honey up for shipment, and something like the following conversation occurred:

"Mr. W., how many cases of that carload of comb honey have you *overhauled* so as to get a look at the *inside* sections as well as the *outside* ones?"

"Oh! quite a few—I don't know exactly how many. Where a case was leaking a little we overhauled it and got out the broken section and put a sound one in its place."

"Well, did you find any cases of honey that were dark and bad looking inside, with the outside sections clean and white?"

"Yes, there were some put up in just that way, and I showed it to Mr. C., and he replied that the dark appearance was only the result of leaving it too long on the hive—that the *quality* was just as good as the other, and he thought it would not be necessary to go to the trouble of overhauling and repacking."

So the commission man was right, after all—at least, our honey *was* open to the charge that the best sections were put on the outside. Mr. C. said afterward that this was not the case with a great many, certainly, for he saw badly stained sections right out against the glass, indicating that the packer put at least *some* of them in just as they happened to come.

Now, a great many think this is a small matter, any way. But I tell you, it is a matter of *tremendous* import to honey-producer and honey-dealer. The thing has come up so many times that our grocers are sore and sensitive; and just as soon as they begin to open a package of goods, and find it put up with the best *outside*, they get indignant. Who can blame them? Had this dark or stained honey been put by itself, and sold at what it would bring, it would have saved condemning, and selling at a low figure, perhaps quite a quantity of first-class white honey. I know there are some who say that the honey that has been longest on the hive is the best ripened, and is therefore *not* inferior; but when it comes to Thanksgiving, or Christmas, circumstances demand that he who wants something nice-looking should have it. Our daughter Constance has just come home from Oberlin to spend Thanksgiving. Like the average schoolgirl of 18, she has a big appetite for every thing belonging to home, especially for fruits and dainties. On my way home from the union prayer-meeting I stepped in at one of our leading groceries to get something to please "Blue Eyes." As I looked over their display, what sort of goods do you suppose I picked out? Why, like everybody else I wanted something handsome-looking—something that would make the whole household lift up their hands in admiration. Of course, I wanted it good too. But I was ready to pay—shall I say double price?—to have something that looked perfect to the eye. What I mean is, some perfect and faultless specimen of *dame Nature's* handiwork. I paid 20 cents per lb. for some beautiful clusters of white grapes—that is, just a few—etc. Now, dear bee-keeping friends, do you see what the great outside world demands of us, and wants us to do? The beautiful little text, "Thinketh no evil," is making big headway in the hearts of our people; and when we give way to this foolish, selfish longing for the thirty pieces of silver, as Judas did, we are not only killing ourselves spiritually, but we are also killing ourselves *financially*. In fact, we are doing just the thing to spoil for ever any possible chance of getting hold of any *silver* at all; and, besides that, if we are professors of religion we are tempting this great outside world to say, "There, there. Not any more of that, if you please. If that is Christianity, I think I would rather buy my stuff of somebody who does not make any profession." What shall it profit a man if he gain the whole world and lose his own soul? But you see he *does not* gain the world either. The *world* is lost and the *soul* is lost—*every thing* is lost. This is Thanksgiving day, and ten o'clock in the morning. May the Lord help us all to shake off this fearful nightmare of selfishness that seems so bound to settle down upon us unless we are holding fast to the strong arm of Him who went about doing good, and who went through the world and lived a human life, but who came out victorious, a model and a pattern of all that is unselfish. *He* "pleased not himself."

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

GARDENING IN DECEMBER.

It is now the day before Thanksgiving. We have beautiful Grand Rapids lettuce in the open ground, still unharmed by frost. And this reminds me that the *Rural New-Yorker* makes a suggestion that is new to me, and possibly is of considerable value to the market-gardener;

namely, that lettuce, radishes, etc., may be grown nearly to maturity in cold-frames. Just before severe weather comes on, cover them with glass and straw mats, and thus keep them fit for use during a great portion of the winter. This can be done much cheaper than to go to the expense of heating, to grow them in the winter time. I am quite sure, from what experience I have had in the line, that it can be managed. Just now we have a fine crop of beets, from the size of hens' eggs down. They are as yet uninjured by the frost, but will soon be injured without protection. One of our boys suggests that we gather them, cut the tops off, and transplant them to cold-frames or green-houses. A beet is a great thing to start to grow, as you know. When they make nice new tops, sell them off for bunch beets during the winter time.

Cauliflower can, without question, be kept in cold-frames, the same as lettuce. Celery is so commonly kept all through the winter months, even into February and March, that I have hardly thought that any instruction was needed. As so many inquire, however, I will tell you what I know about it.

KEEPING CELERY DURING THE WINTER.

If you have only a little, put it into your cellar in a box without top or bottom. Let this box stand directly on the cellar floor. An earth floor is best. The box may be as long as you choose, but it should not be more than a foot or 18 inches wide. If you get too much celery in one body it is apt to rot. Dig your celery, leaving considerable dirt on the roots. Pull off most of the outside leaves, and pack it in the box as closely as possible. Your cellar should have plenty of doors and windows, so that you can keep the temperature pretty close to freezing. Celery will stand considerable frost in the open ground, but not very much in the cellar. In its winter repository, two things are to be guarded against—rotting and freezing. Rotting is the worst trouble. Keeping it cool, and giving it plenty of air, is the remedy. If your cellar is so dry that the celery is likely to wilt, and get like shoestrings, you may moisten the roots; but do not put any water on the tops. It will make it rot. Sometimes a little cavity is made in the cellar bottom, say two or three inches deep, and water is poured into this cavity. This will keep it growing some if your cellar is not too cold; but if it grows much in the cellar, it is likely to become hollow and stringy. Now, putting up celery on a large scale is just like the above, only, instead of the box, you can set up boards a foot wide and 16 feet long. Keep them up from the cellar bottom by means of pieces of 2x4 scantling laid at right angles with the long boards. This is to let enough air circulate to prevent heating. When you want the celery to blanch—that is, if it is not blanched when you gather it—shut off the light and raise the temperature until the celery is just right for the table. Last winter we had some beautiful celery wintered in a vacated pig-pen. Now, do not smile nor turn up your nose. The pigpen is under shelter, and is a part of our tool-house. We cleaned it out nice and clean, and dug down perhaps a foot below the surface of the ground. After it was packed away as above, between long boards a foot wide, we covered the whole top of the pig-pen with the same kind of one-foot boards, and over these boards we put stable manure enough to keep the frost out. A good deal of dirt adhered to the celery, and the dirt in the bottom of the pig-pen made it so rich that it grew some all winter, especially when the heat of the manure above it raised the temperature enough. The celery, when put away,

was quite green, and not blanched enough for use. The variety is the New Rose. The stalks were a bright rose red when put away. In January the darkness and warmth had bleached it so that it was received by everybody as *white* celery with an occasional rose tint to it; and it was the most crisp and delicious celery I ever tasted in my life. This year we have a cellar under our new factory, about 40x100 feet, and the door is so large that a horse with a mud-boat can draw a load of celery right where it is to be packed between the boards. A low sled or mud-boat is perhaps as handy as any thing to draw the celery from the field. Put it right close to the rows, so that the men who pry out the stalks with tile spades can set them right on the boat. A box should be placed on the boat, made of boards, perhaps a foot high. A common stone-boat will do, but it draws rather harder than the right kind of sled.

Celery can be wintered outdoors in our locality in average winters; but as it is risky, it is not generally to be recommended. If, however, you think you will want to use it all by Christmas, you can manage it this way: Bank it up clear to the very tips, then make a trough of boards. Invert this over the row, and cover with coarse straw manure. This will keep it till Christmas safely, and many times even till spring. The objection is, the amount of labor required for so small a quantity of celery at the usual distance apart of planting. To save labor you can dig a trench a foot wide, and, say, two feet deep. Put a tile in the bottom of the trench, to make sure that it does not get filled with water. Now pack in your celery, just as before directed, in the cellar. Earth up; put an inverted trough of boards on top to keep off the rain; put on your straw manure, and it will answer about as well as a cellar. The only difficulty is, that you can not very well get at it during very severe weather in the winter. It is much handier, as you will readily see, when stored in the cellar, as first directed; for in this case you can put it on the market very quickly whenever a good price is offered. A combination of the two plans is what is called a "celery-house." This is built anywhere outdoors, where the ground is so thoroughly drained, or stands in such shape that water can not get inside. Dig down two feet, throwing the dirt outside so as to form walls. Put in your celery; cover with any kind of rough cheap boards, or whatever is handiest, leaving just room enough to stand up and go between the rows of celery. Have a thermometer or thermometers hung in different parts of the structure, and go around often with a lantern, and see that the temperature does not get below the freezing-point. If it were not for getting around among the stuff with a lantern, to see how it is keeping, I would have a roof within two feet of the tops of the celery. With such a low structure there is less difficulty in keeping the frost out; and if you are young and small, so you can afford to stoop down and crawl through the avenues, you may make it low. Pack your celery in rows so that you can reach any of it from some one of the paths, to see whether it is freezing or rotting, and put a board as directed, so the rows of celery shall not be much more than a foot from one board to the next. Unless you do this it will fall over and make you trouble. It will pay you to do this work decently and in order; and if you plan it beforehand according to the length of your lumber, there need be no cutting or sawing, and the structure can be put up very quickly. You can make it so as to be permanent, or you can pile your lumber up under shelter during the summer time. If you are going to make a permanent structure, however, I rather think I would have it in the form of a

cellar under some building, providing you have plenty of doors and windows to give it lots of air if it threatens to rot on your hands.

With the cheap structure you can remove the few boards when ventilation is needed; but be sure that your roof, whatever it is, never permits water to drop through on to the tops of your celery; and be sure that you do not leave the ventilator open at any time when rain or snow may get in, for any kind of wet or dampness on the tops when in its winter repository will be sure to make it heat and rot.

In our locality we put away our celery for winter, about Thanksgiving time.

OUR CONDENSED SEED CATALOGUE.

Very few additions will be made to our catalogue of last year. The Breadstone turnip we mentioned in our last issue continues to be a favorite with the wagon. E. C. Green, of the Ohio Experiment Station, says, in our last issue, that he hardly sees how he can get along without the Golden Wax bean. We have found the Kidney Wax to have larger and handsomer pods, and it is much less liable to rust. We shall perhaps be obliged to catalogue a pole bean aside from the limas, and I think we shall use the Dutch Caseknife on the strength of friend Green's recommendation. For the same reason we shall include Crosby's Egyptian beet. We dislike to drop the Golden Self-blanching celery, but our trade this season has given the White Plume the preference. On the strength of friend Green's recommendation we shall use the Spanish King onion (Maule's Prize-taker) for starting onions in the greenhouse. The White Victoria is too poor a keeper. Have the friends at the Experiment Station tried the Breadstone turnip? Fottler's Brunswick cabbage we shall take for a late one. Our friend Jennie Wilson speaks so highly of the Shoepeg corn that I am inclined to think we shall have to adopt it. It is certainly equal to any in quality, and there is so much corn and so little cob that one really gets more for his money than with most other kinds of sweet corn.

Prof. Green, of the Ohio Experiment Station, speaks of it as follows:

In GLEANINGS for Nov. 15, A. Jennie Wilson recommends Shoepeg sweet corn. This is the same as Ne Plus Ultra, or Banana. It is the most meaty and delicious corn that I ever tasted. The ears are not large, hence it might not be suitable for market; but it is unsurpassed for home use. I give the different names by which it is known, so that it may be recognized in the different catalogues. W. J. GREEN.
Columbus, O., Nov. 18, 1890.

In regard to the cantaloupe melons, we have tested Miller's Cream, and we thought that, if anything, it was a little ahead of the Emerald Gem; but rather than have so many kinds we thought we must drop it. As friend Lipscomb, however (on page 790), says it is a much *heavier cropper* than the Emerald Gem, I do not know but we had better substitute Miller's Cream. Can any of the friends corroborate friend Lipscomb's statement?

CONVENTION NOTICES.

The annual meeting of the Huron, Tuscola, and Sanilac Co. Bee-keepers' Association will be held at Bad Axe Court-house, Huron Co., Mich., on Wed., Dec. 10, 1890. All are invited.
Kilmanagh, Mich. J. G. KUNDINGER.

The fall meeting of the Carolina Bee-keepers' Association will be held in the Public Hall, Pineville, N. C., Dec. 18, 19. A good programme is prepared. All come, with full report.
Derita, N. C. N. P. LYLES, Sec.

EDITORIAL.

My righteousness I hold fast, and will not let it go.—JOB. 27: 6.

We have at this date 10,190 subscribers.

PUTTING BEES INTO THE CELLAR.

The weather at this date, Nov. 26, seems to warrant us in putting our bees in the cellar. We are carrying them in this afternoon, and piling them up *a la* Boardman, without bottom-boards. Dr. Miller put his in two weeks ago, but he is in a colder locality than we.

THANKSGIVING TIME FOR TILLERS OF THE SOIL.

In times past we have heard a good deal in regard to hard times for the poor farmer. In fact, there has been so much said about the farmers not having a fair chance (I presume the term "farmers" would also include market-gardeners), that it began to remind me of the old women's-rights question, and I didn't know but we should have to have a farmers'-rights organization. In fact, I presume we have two or three already; but I know so little of politics that I haven't even kept posted. Well, I want to say a word in regard to high prices on farmers' produce at this present time. I don't feel bad about it. In fact, I rather rejoice when I hear that any kind of farm produce is bringing a good price, and I rather enjoy paying it; but I mean, mind you, when everybody else has to pay it as well as myself. At present here in Medina we are paying 50 cts. a bushel for oats; 30 for corn in the ear; a dollar a bushel for nice potatoes; \$2.00 a bushel for choice apples, etc. Not only are prices good, but every thing seems to be taken up as fast as it comes into market. For several years I have felt sorry for the boys in our vicinity who raised popcorn. They brought nice lots of it to town, and I tried buying it for a while just to encourage them a little; but as we didn't get rid of it I had to give it up. Just now, however, there is great demand for popcorn, and none to be had. Our enterprising friend, H. R. Wright, of Albany, N. Y., sends out letters asking if anybody knows of any popcorn for sale anywhere. Friend W. buys and sells popcorn by the carload, and his printed letter-head makes quite a little circular in regard to the "popcorn business." Well, now, that is really encouraging. If there is any thing I do enjoy, it is seeing the boys get a good price, cash down, for something they have raised. When I find a boy who raises popcorn or chickens or honey or strawberries or onions, I just like to take that boy by the hand and claim relationship; and when our great nation of people get to where they can offer the boys encouragement in the way of good prices, we are on the road to better things. I allude especially to the boys that go out in the fields and work for themselves under God's clear sky, instead of hanging around the factories, begging for a chance to be "bossed" by somebody.

THE AMERICAN BEE JOURNAL.

On the first of next year the old *American Bee Journal* is to change its size to about that of these pages, and each number will contain 32 pages. For a weekly bee-journal this is a big undertaking; but Newman & Son are equal to the task.

THE AMERICAN BEE-KEEPER.

This is the title of a new bee-journal, to be issued Jan. 1, 1891, and to be published by the W. T. Falconer Manufacturing Co., Jamestown, N. Y. It is to be a monthly periodical of 16 pages. The cover page and prospectus are before us, and we have no doubt that they will get out a first-class journal.

SPACERS FOR FRAMES.

EVERY now and then we receive a spacing-device for holding ordinary frames at fixed distances. They are complicated, and would make the hive cost anywhere from 10 to 50 cents extra, to say nothing of the length of time it would take to manipulate them. In suggesting these improvements it is well to bear in mind, first, their expense; second, their convenience. No Yankee can tolerate expensive devices, no matter how good they may be otherwise.

LIFE-MEMBERSHIP IN THE N. A. B. K. A.

In order to become life-members in this association, spoken of elsewhere in these columns, all you have to do is to pay \$10.00 to the secretary; and when your name is voted upon and accepted, you will be a life-member, and no more *annual* dues to pay. Any one thoroughly interested in the success of the society (and that success means a great deal to our industry in general) can not do better than to become a life-member. If he be a straightforward man there will be no doubt that he will be accepted as a member.

FLAT COVERS.

In going over our colonies in Dove-tailed hives, preparatory to putting on the outside cases, we noticed that the clusters in some of the hives had settled down almost to the entrance, seemingly to avoid proximity to the cover. On other hives of the same kind they are quite close to the cover; and inspection showed that the former had been recently opened—that is, the propolis attachments making the cover airtight, had been broken so that the air would flow over their backs, and consequently they went down toward the entrance. Those colonies from which the covers had not been removed for some time, and which had been sealed down with propolis, were close to the cover. The same thing was seen in all our colonies in chaff hives with chaff cushions on top. Our apiarist, Mr. Spafford, thinks he would like to have the Dove-tailed cover with side pieces, so that they would telescope over the body. There might be an advantage in this, but it makes the covers more difficult to handle during the honey

season; and when they are sealed down with propolis it is a pretty hard matter to pry them up, unless there are cleats on the hives, and we don't exactly want cleats yet. The moral is, to get the colonies fed up as early as possible in flat-cover hives, so that the bees may have time to seal the covers down air-tight. Simplicity covers are no better in this respect.

EXAGGERATION IN DESCRIBING GOODS IN CATALOGUES.

This matter is brought to my mind just now by a description of lemons in a weekly price list. There are three grades. They are designated, first, "Extra Fancy;" second, "Fancy;" and third, "Extra Choice." The "Extra Choice" is the poorest grade. I think I can remember the time when the poorest lemons used to be styled "Fair." Better ones were classed as "Choice." Pretty soon we had to say "Extra Choice" to get any real good ones. When the "Extra Choice" got to be only ordinary, somebody started the word "Fancy," and for a while we could be sure of getting the best in the market by ordering "Fancy." Now, however, we have to say "Extra Fancy" if we want the best; and if we happen to need the ordinary for some special purpose, they must be designated "Extra Choice."* What a sad, sad state of affairs! But somebody says, "What are you going to do about it? If you call your things exactly what they are, nobody will purchase. We are really obliged to do as others do." I heard a merchant in California say, when an exasperated customer gave him a blowing-up because his pound rolls of butter weighed only $\frac{3}{4}$, that the only way to live and get along was to give $\frac{3}{4}$, just as everybody else does. I suggested that he weigh them up by the pound, and tell every customer that they were $\frac{3}{4}$ -lb. rolls. He said nobody would buy them, because all the rest in the whole city of San Diego called $\frac{3}{4}$ of a pound a pound. Now, my friends, all this talk and this theory is false. It is not true. It *will* take you some little time to build up a business by telling the honest truth, *no doubt*; but when people get to know you, and to understand that you give full weight, and that, when you say "choice," you mean better than the average in the market, your fortune is made. There is no spread-eagle advertisement that can come *anywhere near the simple honest truth*, to build up business. Use moderate, simple, truthful, honest words. Make this your foundation, and all mankind will soon flock around you. If others act dishonestly, the field for you is all the wider and all the broader; and I have sometimes thought that, in some departments of trade, there is an almost *unexplored region* for the man who is actually and truly seeking "first the kingdom of God and his righteousness."

* When "Extra Fancy" loses its "saltiness," what words shall we take next?

DISCOUNTS FOR EARLY ORDERS.

As is our usual custom, we are allowing a liberal discount on orders sent in now for goods to be used next season. After the vacation delays last spring, it is needless to explain the many advantages secured by those who order early. Not only do you gain by having your goods to put together and get ready for use during leisure time in the winter months all ready for business in the spring, but you secure a sufficient discount to make the investment a profitable one. You also run the chance of getting better goods, made when we are not so rushed, than some we were obliged to send out last spring, made by unskilled workmen on the night force during the "great rush" for supplies. With the increased capacity that our new two-story brick building, 37 x 100 feet, gives us we hope to be better prepared than ever for such an unusual increase of business as we have had the past season. Still, the experience of the past two years has taught that it is not safe to rest with too much confidence on this reasonably good prospect. It is much safer for you to **ORDER EARLY**. We have secured from Michigan over 100,000 feet of basswood, out of which we are making the whitest and nicest sections we ever turned out. To verify our word, send 5 cents to pay postage on a sample. With a demand equal to last year, the sections made from this lot will be gone by April 1. We may get more equally good, but the chances are in favor of those who order early. Our new revised catalogue will be ready to mail in two or three weeks.

DISCOUNTS.

The discounts will apply to every thing in our catalogue ordered for next season's use. They can not, of course, apply to large orders for counter goods or honey-packages; but if only a few of them are included with an order for hives, etc., then the discount may be taken from the whole bill.

Up to Nov. 1st, discount will be 5 per cent. After that date, one per cent a month for each month before March; i. e., 4 per cent in November, 3 per cent in December, 2 per cent in January, and 1 per cent in February.

A. I. ROOT, Medina, O.

Wire Cloth.

For door and window screens, tacking over hives and nuclei for shipping, making bee and queen cages, and a variety of purposes. We have the following list of green and black wire cloth which is not exactly first class, but is practically as good for the purposes mentioned, and at prices MUCH BELOW the ordinary price. You can no doubt select from this list a piece to suit your needs. Price in full pieces, 1½ cts. per square foot. When we have to cut it, 2 cts. In case the piece you order may have been taken by some one else before your order comes, please say whether we shall send the nearest in size, or cut one the size ordered at 2 cts. per ft., or give a second or third choice.

No. of Rolls, and Color.	Width, in's.	Length, ft.	Sq. Feet.	Price of a Full Roll.	Pieces less than 100 ft. long. These figures are the number of square feet in each piece. Multiply by 1½ cents for the price of piece.
10 green	8	100	67	\$1.17	65, 65, 64, 63, 63, 62, 54, 40, 33
25 green	12	100	100	1.75	44, green; price 77 cts.
2 green	16	100	133	2.33	
1 black	22	71	128	2.24	110 sq. ft., black; price \$1.92
5 green	24	100	200	3.50	140, 40, 30, 8, green; 200 black.
54 green	26	190	217	3.50	This is below reg. pr. of 1½ c.
14 green	28	100	233	4.08	224, 224, green.
7 green	32	100	267	4.67	133, green; price \$2.33.
10 green	34	100	300	5.25	300, black; price \$3.25
6 black	38	100	317	5.54	269, black; price \$4.70
5 green	38	100	317	5.54	258, black; price \$4.50
3 black	40	100	333	5.83	317, black; price \$5.54
8 black	42	100	350	6.12	350, green; price \$6.12
1 green	44	100	367	6.42	

A. I. ROOT, Medina, Ohio.

A Four-Color Label for Only 75 Cts. Per Thousand!

Just think of it! we can furnish you a very neat four-color label, with your name and address, with the choice of having either "comb" or "extracted" before the word "honey," for only 75 cts. per thousand; 50 cts. per 500, or 30 cts. for 250, postpaid. The size of the label is 2½ x 1 inch—just right to go round the neck of a bottle, to put on a section, or to adorn the front of a honey-tumbler. Send for our special label catalogue for samples of this and many other pretty designs in label work.

A. I. ROOT, Medina, Ohio.

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.

JNO. VANDERVORT Laceyville, Pa.

To BEE-KEEPERS!

IN ADDITION to our New England **Honey Trade** we have leased a Store in New York City (in the best possible location to catch the Grocery Trade), and propose handling

COMB AND EXTRACTED HONEY

there. As we have been practical Bee-Keepers and have had some 12 years' experience in the Honey Trade (during which time we have handled MORE HONEY than any House in New England), we feel justified in saying that we understand the Honey Trade, and think we can handle your **Surplus Honey** to the very best advantage.

We shall endeavor to make Quick Sales at the **very highest prices**, and by making prompt returns we hope to merit your patronage. Advances made when requested. Stencils furnished—also printed instructions for Packing and Shipping, giving valuable information gained by our experience in Shipping Honey by the Ton and in Carload lots. Correspondence, Visits, and Consignments Solicited. Address

F. I. SAGE & SON,

183 Reade St., - - NEW YORK, N. Y.

No Consignments received at Wethersfield, Conn.

REFERENCES.—Bradstreet's and Dunn & Co.'s Commercial Reports, under *Wethersfield*, Conn., heading, and the numerous Bee-keepers whose Honey we have handled the past 12 years.

18-23db

Please mention this paper.

TAKE NOTICE!

BEFORE placing your orders for SUPPLIES, write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. PAGE, KEITH & SCHMIDT CO.,

21-12db

New London, Wis. J

In responding to this advertisement mention GLEANINGS

FOR SALE.—A pleasant home in Orlando; the most enterprising town in South Florida. New, nine-room house; half-acre lot planted in bearing orange-trees; a nice lawn; city water; on street car line; but only ten minutes walk from business part of town. Splendid location for an apiary. For particulars address DR. E. J. BAIRD, 21-22-23d Orlando, Florida.

OUR NEW MAGAZINE

—WILL BE CALLED—

THE AMERICAN BEE - KEEPER.

The first issue will appear January 1st, containing 16 pages and cover. We shall aim to make it a strictly impartial, wide-awake, commercial journal of the highest standard, of interest to both the beginner in bee culture and the expert. Its contents will be furnished by the very best writers of the United States and Canada. Subscription price 50c per year, postpaid. Sample copy free. Address

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, - - NEW YORK.

Send also for our new catalogue of Bee-Hives and other bee-supplies. We now have the largest plant of the kind in the world (over two acres of floor space), and can furnish the best goods at lowest prices.

In responding to this advertisement mention GLEANINGS.

ESTABLISHED IN 1864.

BEE SUPPLIES.

Wholesale and Retail. We have the largest steam-power shops in the West, exclusively used to make **EVERYTHING** needed in the Apiary, of practical construction and at the **LOWEST PRICES.** Italian bees, queens, 12 styles of Hives; Sections, Honey-Extractors, Bee-Smokers, Feeders, Comb Foundation, and everything used by bee-keepers, always on hand.

40-page Illustrated catalogue **FREE** to all. 4tfdb. Address **E. KRETCHMEL, Red Oak, Iowa.**

In responding to this advertisement mention GLEANINGS.

For Sale at a Sacrifice.

123 COLONIES of Hybrid and Italian bees, in modified Simplicity hives. Bees in good condition. Good range. Good market.

22 23 24d **E. A. RAPP, Chillicothe, Mo.**

In responding to this advertisement mention GLEANINGS.

Bee-Keepers' Supplies.

WHY * SEND * LONG * DISTANCES ?

SEND NAME ON POSTAL CARD FOR MY
NEW PRICE LIST TO

C. P. BISH, Grove City, Mercer Co., Pennsylv'a.

Formerly of St. Joe Sta., Butler Co., Pa.

ESTABLISHED IN 1884.

7tfdb

Please mention this paper.

PATENT WIRED COMB FOUNDATION

HAS NO SAG IN BROOD-FRAMES.

THIN FLAT - BOTTOM FOUNDATION

Has No Fish-bone in Surplus Honey.

Being the cleanest is usually worked the quickest of any Foundation made.

J. VAN DEUSEN & SONS,

Sole Manufacturers.

5tfdb

Sprout Brook, Montgomery Co., N. Y.

In responding to this advertisement mention GLEANINGS.



Bee - Keepers' * Supplies.

We are prepared to furnish bee-keepers with supplies promptly and at lowest rates. Estimates gladly furnished, and correspondence solicited. Our goods are all first class in quality and workmanship. *Catalogue sent free.* Reference, First National Bank, Sterling, Ill. Address

W.M. McCUNE & CO.,
Sterling, Illinois.

In responding to this advertisement mention GLEANINGS.



We have a large stock of sections now ready, both No. 1 and No. 2. Write for special prices on winter orders, in large or small lots, including other supplies—berry crates and baskets, made up or in the flat, etc. Address as in cut.

In responding to this advertisement mention GLEANINGS.

BARRED PLYMOUTH ROCK COCKERELS, \$1.00;
hens, 75c. Also Quinby hive corner clasps for sale. 20tfdb **L. C. AXTELL, Roseville, Ill.**